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To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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TO ENHANCE THE WEATHER BUREAU SERVICE.

Secretary Wilson, of the Department of Agriculture, has directed Chief Moore, of the Weather Bureau, to move the headquarters of the present West Indian storm-warning service from Kingston, Jamaica, to Havana; to establish complete meteorological stations at Cienfuegos and Puerto Principe, and as rapidly as possible extend the crop and climate service of the Weather Bureau all over the island. It is thought this work will be completed inside of two months.

Some years necessarily will elapse before any forecastings of weather conditions can be systematically and regularly made for the Philippine or the Sandwich Islands. To do this successfully and promptly, quick cable and telegraphic communications between the points covered in the far east are essential and those features are lacking in the groups of islands named. Curiously enough Prof. Moore points out the hurricanes in the Philippines, which occur a little earlier in the season than in the West Indies, arise in the same general direction, and follow the same course as those in the latter-named islands.

It is possible that an agent of the Weather Bureau may be sent to Honolulu and Manila during the coming year to make a general study of the situation in the islands of which they are the principal cities, but even this is not yet fully determined. Prof. Moore said the Spaniards maintained meteorological stations at several points in the Philippines, but they are not of much value. When the Philippine question is taken up the department will establish a central meteorological station in the islands and by means of reports of rainfall and thermometer reading at various places in the group will be enabled to publish data bearing on the climate conditions existing in the archipelego.

THE WORLD'S SHIP BUILDING.

The volume of tonnage launched from the ship yards of the world during 1898 shows the largest yearly aggregate in the whole history of ship building, the grand total being no less than 2,210,169 tons against 1,467,271 tons for 1897. The total for Great Britain and Ireland was 1,684,685 tons, or an increase upon 1897 of 548,094 tons.

The Clyde ship building returns just issued show a record in the industrial history of the world. The Clyde firms launched 328 vessels of 466,832 tons against 318 vessels of 340,373 tons last year. The engines totalled 510,815 horse power, against 323,195 the previous year. In ship building Russell & Co., Port Glasgow, again head the list with 44,551 tons.

The returns of the ship building output on the River Wear, England, for the eleven months, including November, show that all records have already been surpassed, says the Liverpool Journal of Commerce. Seventy-four vessels, aggregating 238,281 tons, were launched, and the December output will raise the total to 255,000 tons. This is the banner year and record output for British shipyards.

NON-LIABILITY—GOVERNMENT INSPECTION.

The White Line Towing Company, of Duluth, has filed its answer in the case of Gustave Stadleman against the company for damages for personal injuries that he alleges to have received while in the discharge of his duties as a fireman on the tug D. T. Helm, on the 6th of August last.

The towing company admit that Stadleman was injured to some extent at the time he alleges, but it is maintained that it was no fault of theirs that caused him to be hurt and that his injury was due to a break in the exhaust pipe letting steam down in the fire box and causing flames to come out of the door of the furnace. The towing company claim that Stadleman assumed the risk that proved to his injury when he engaged as a fireman on the tug.

It is claimed also, and here the point comes in that we desire to emphasize, that the tug was properly inspected by the government inspectors and that they pronounced her in good condition and a seaworthy boat. Marine lawyers, owners and others would do well in taking full cognizance of the fulsomeness of the latter plea.

THE NEW BATTLESHIP OHIO.

Work on the battleship Ohio has been commenced at the Union Iron Works, San Francisco. The Ohio will be the largest ship ever built on the Pacific coast and one of the largest ever built in the American navy. She will have a displacement of 12,500 tons and her dimensions will be as follows: Length, 388 feet; breath, 72 feet 3 inches; draught, 23 feet 9 inches.

The new battleship will be 20 feet longer that the Wisconsin and 40 feet longer than the Oregon. She will have a greater displacement than the Wisconsin by 1,000 tons and 2,000 tons more than the Oregon. The Ohio's contract speed is two knots faster than the Wisconsin and three knots faster than the Oregon.

HOT AIR TO CLEAR MIST.

It is stated that an apparatus has been invented in England called the Tugrin fog dispeller. This apparatus enables a pilot or the officer in the conning tower of a warship to see through the densest fog for several hundred feet. During an experiment in a fog, without the dispeller, nothing could be seen at a distance of fifty feet; with it bricks were clearly visible at a distance of 178 feet.

There is an outlook pipe, eight feet long and three inches inside diameter, with a wide flange at the mouth. A pipe enters the tube from below, and the outlook tube may be pointed in any direction.

When the dispeller is in use the blower sends a powerful stream of air through the fog, blowing a hole right through it. The fog is rolled back in every direction and the moisture in suspension condenses and falls in rain.

THE INTERNATIONAL GEOGRAPHICAL DATE LINE.

The Philippine Islands lie sixty degrees beyond the 180th meridian going west, the course, for some distance, of "the Date Line;" and now that the Philippines are, or will be United States territory, it will be useful to Americans to know about this interesting Date Line. The New York Sun, which "shines for all" instructively, sheds some light upon a comparatively little known subject—the imaginary line drawn to mark the change in the calendar day required by circumnavigators of the globe. A mapmaker asked the Sun if the Date Line followed the 180th meridian, remarking that he had been unable to find the line on any map. The Sun replies that the Date Line does not follow any meridian for its entire course, but takes a somewhat devious route through the Pacific. It is strange that it is shown on so very few maps of the world. The reasons why a crooked course was given to it and why it was placed in the Pacific are interesting and easily understood.

Suppose the Date Line had been run through our country on the meridian of Chicago. In that case, when it was Monday in New York, Cleveland and Indianapolis it would be Tuesday all the way from Chicago to San Francisco and out on the Pacific. Of course that would be a serious business inconvenience. It is evident that the Date Line should not pass through any continents. It was practically a necessity that such a line had to be fixed somewhere, but it obviously had to run through an ocean.

It should not pass through the Atlantic ocean, because, in that case, when it was Monday in London, Paris and Hamburg it would be Tuesday in the United States; and this would be inconvenient in regions that have such enormous interests in common and are so closely united by telegraphs and cables. The best place for the Date Line was in the Pacific ocean. If we follow the line through the Pacific we shall observe that the ideas above expressed have had due weight in making its course

Passing through the middle of Bering Strait the line suddenly turns to the southwest till it reaches 170 degrees east longitude. In this way Bering Island and the entire Aleutian chain, all a part of North America, are kept on the American side of the line. When it is Monday in New York it is also Monday in Attu, our most western American possession.

Then the line sweeps eastward again and follows the 180th meridian far south till it reaches the neighborhood of Fiji Islands. As this group and other islands round about belong to Great Britain, and are closely united in business relations with New Zealand and Australia, the line takes a wide sweep to the east so as to give them all the same calendar day. It then returns to the 180 meridian, which it follows to the Antartic.

ANNUAL MEETINGS.

Monday, January 16th, is the date fixed for the annual meeting of the National Marine Engineers' Beneficial Association, at Willard's hotel, Washington, D. C. There are several important matters to come before the national body this year, and a large attendance from subordinate associations is expected.

The American Association of Masters and Pilots of steam vessels will also hold their annual session.

The most important meeting, to be held the same week, will be that of the United States Board of Supervising Inspectors of Steam Vessels.

IT is carefully estimated that the amount invested in mines, docks, vessels and railroads for handling the iron ore from the Lake Superior country aggregates $228,000,000 and this amount is increasing at the rate of about $4,500,000 annually.

NEWS AROUND THE LAKES.

CLEVELAND.

Special Correspondence to The Marine Record.

The steamer Appomatox, of the Davidson fleet, is holding a coal cargo at Erie until the opening of navigation.

Several boats of the Wilson Transit Co. are already loaded with coal for winter storage and spring delivery. The large steel steamer Yuma of the same line is holding grain at Duluth.

A damage suit for $8,553.44 was commenced this week in the United States District Court by John Corrigan, owner of the barge Aurania, against the owners of the steamers Edward Smith No. 2 and the Mesaba. The alleged damages are the result of a collision which took place on June 24, 1898, in Lake St. Clair.

Nearly a month ago a large fleet of steamers were ice-bound on Lake Erie; the cost to release them was quite a large sum. On Tuesday the wooden steamer Neosho, of Milwaukee, steamed into this port from Erie to go into dry dock. No ice to speak of was met with during the trip along the south shore. So much can be said for Lake Erie navigation on January 3, 1899.

Two more contracts for new steel tonnage are being figured on and it would appear as if one, at least, was on the point of being placed, but as matters stand just now I am not permitted to state how far developments have gone. Builders who have been figuring on the plans and specification now know who the parties in interest are, so also may marine architects, superintendents of construction and a few others, though at this point I am halted.

A representative from the Cleveland City Forge Co., Mr. C. M. Wales, well and favorably known here, will leave shortly for a tour over the United Kingdom and the continent of Europe in the interest of the City Forge Co. and its productions. It is noticeable that a larger number of firms than ever before are looking towards opening up trade in and with the old country. The Brown Hoisting & Conveying Machine Co. have already opened branch offices at London and in Dusseldorf, Germany.

A sort of a revulsion of feeling must have been brought about within the past few years regarding a Detroit river bridge. A vessel owner and master of thirty years' standing assures me this week that such a bridge would be an excellent thing. The majority of vessel owners would now favor it and it would prove tributary to and thereby increase lake traffic. Capt. James Millen, of Detroit, was invited to leave a meeting of the Lake Carriers' Association for suggesting such an innovation a few years ago, since which time he has been honored with the presidency of the same association. Well, it looks now as if Capt. Millen had been far and away in advance of his contemporaries at that time.

A new bridge has to span the river at Lorain and the consensus of opinion as gathered by the Lorain Times from all the leading residents, shipmasters, owners and others is strongly in favor of a lift bridge. The day for placing a permanent obstruction in the center of a navigable waterway for a bridge to swing upon is now passed, and no center piers ought to be permitted at Lorain, that is, if it has an eye to its future commerce. Cribs built in the middle of a river 200 feet or so in length and 30 to 40 feet wide is an ancient engineering abomination and a curse to all water borne traffic. Swing or lift from the side, Lorain, and do right for the commerce of the port and its future.

Judging from the evidence of good fellowship among officers of the Rockefeller fleet with the close of the third season, it would seem that no matter what else may be said of the Standard Oil magnate the right kind of feeling exists between employer and employed. A system of premiums for the men gauged on success, covering essential points in the working of the vessels, seems to have had every advantage and is highly spoken of by the captains. Especially has it encouraged every effort tending to prevent accidents and loss to the vessels. It would be well if this spirit of emulation and loyal attention to the interest of the line would be adopted by the owners of other cargo fleets. Of course the officers do what they are shipped for, but there are various ways of doing, speaking and thinking, although it is true the last two items don't count for much from an owner's standpoint, and yet, they would not like to overhear themselves growled at, reviled and called anything but human, sometimes with good cause, too.

CAPT. GEORGE BREYMAN of the dredging firm of George H. Breyman & Bros., Toledo, returned from Boston, Mass., this week, to which place he went to see about the releasing of seven scows that were driven ashore during the recent severe storm along the Atlantic sea coast. Six of the scows were released with little damage to them. The seventh will soon be afloat. He says that Boston bay was full of vessels at the time of the storm, and, dragging their anchors, went ashore. Most of them have been floated without much damage. The captain says there seems to be some kind of a hitch about the payment of men who were on vessels that were wrecked that had been brought from the lakes. None of the vessels that were taken from the lakes have been put in commission, and he heard that none of them have been insured. He saw Capt. Charles Hubbard and went with him out to the schooner Marion W. Page, of which the latter is captain. After the Page left the lakes she was in a storm on the Atlantic and lost her anchors. Capt. Hubbard's wife and son are aboard the Page with him.

DETROIT.

Special Correspondence to The Marine Record.

The owners of the steamer Outhwaite and the schooner Barr have brought suit in the United States District Court to have both vessels declared total losses.

Toledo Harbor Masters and Pilots' Association have chosen the following officers: Worthy captain, J. P. Nagle; first pilot, Homer Durand; second pilot, E. A. Williams.

Toledo branch of the Shipmasters' Association has elected the following officers for the ensuing year: President, Capt. William J. Leaver; first vice-president, Capt. James McKinley; second vice-president, Geo. W. Burtis.

The rush of eastbound merchandise over the South Shore railroad has increased so that the transfer steamer St. Ignace has gone into co mmission to assist the Ste. Marie. Both steamers will transfer night and day, and while the rush continues there will be double crews on each.

The Detroit Sheet Metal & Brass Works issued this week a very neat illustrated catalogue of the improved lubricating devices manufactured at the extensive plant of this widely known firm, situated at the foot of Orleans street. The officers of the company are F. E. Kirby, president; G. N. McMillan, manager and treasurer; J. F. Kemp, secretary.

The steamer which the Union Dry Dock Co., of Buffalo, will build for the Western Transit Co. will be practically a duplicate of the steamer Troy, built for the same line by the Detroit Dry Dock Co. last season. The new boat will be 402½ feet over all, 50 feet beam and 28 feet deep. She will carry a cargo of 5,700 tons on 17½, in addition to 100 tons of fuel with a guaranteed speed of 13 miles an hour, loaded.

It was not the Corsica shoal but a newly developed hummock that the steamer Harvey H. Brown fetched up on at the foot of Lake Huron on her last trip. It is supposed that the mound was thrown up by the dredges. The captain is sure it was something of this nature, as it was in the channel, steamers passing on both sides of him. The Brown went out a foot. The captain took the bearings of the spot, and the light-house department will have a chance to investigate this winter when ice forms.

The election of officers for the Detroit Yacht Club will be held in the hotel Ste. Claire on Monday evening, Jan. 9, 1899. The nominations are Dr. Bernhardt Jacob, commodore; F. J. Rothacker, vice-commodore; John Schweikart, rear commodore; J. K. Moore, secretary; A. C. Kramer, treasurer; S. H. Ives, fleet captain; Dr. Otto Scherer, fleet surgeon; W. J. Partridge, measurer. The commodore, rear commodore, secretary and treasurer are ex-officio members of the board of directors; the other five members of the board will be selected from the following candidates: J. A. Suckert, L. W. Schimmel, F. J. Rothacker, E. Jerome, A. A. Ekliff, C. J. Termote, W. J. Funke, W. G. A. Hunter, F. P. Goettman, R. H. McCormick, R. L. Aylward, W. R. Shapland and W. E. Moloney.

Owners who chartered boats to the Atlantic Transportation Co. that succeeded in reaching the coast have received checks for the month of December, but no settlement for December has been made for the vessels that are ice-bound in the St. Lawrence river. The Transportation Co. wants the owners to cancel the charter for the winter months, and then extend the time six months after the boats reach the coast. Owners rightfully claim that the boats were turned over to the New York firm in plenty of time to reach the coast, and it is not their fault that they did not get through according to all expectations and the understanding at the time the charters were made. The closing time on the St. Lawrence is so generally well known that it was fully expected the boats would all have been in service on the coast this winter. Perhaps, though, it is as well that they're not since the charterers have failed.

Some novice is complaining that the lake-built steamer Simon J. Murphy is being criticised on the coast. It is mentioned that the "main boiler is on the deck without any extra supporting stanchions under it." Also that there is no means of steering the vessel by hand, and that if the steam steerer were to become disabled in a gale of wind the vessel might be in serious peril. Another feature of the steamer with which they find fault is "a hawser hole in the stern." They claim that in heavy weather at sea there would be a danger of water pouring through this hole, over the steering engine and into the steering room. The last remark stamps the joker. Steamers don't have "hawser holes in the stern," and whatever holes they do have can be easily plugged at any time, as anyone but a soldier might know. Relative to the other points, they are well taken, and a vessel must be made seaworthy if her insurance is not to be vitiated.

Every possible credit is given the Cleveland Ship Building Co. for the efficiency of the steamer Clarence A. Black, built for Detroit owners at the Lorain yards of the company. Some particulars of this fine cargo steamer are given as follows: Hull 414 feet over all, 50 feet beam, 28 feet depth, carried 215,000 bushels of wheat, draught 16 feet 8 inches forward and 17 feet 5 inches aft, or say a mean draft of 17 feet not including fuel; triple-expansion engine with cylinders 22, 35 and 58 inches diameter and stroke of 40 inches, air pump 32 inches diameter and 14 inches stroke, two Scotch type boilers 13 feet 2 inches in diameter and 12 feet long, allowed 165 pounds pressure, 4 furnaces 48 inches inside diameter with grates of 5 feet 6 inches—88 square feet, total heating surface 4,292 square feet, ratio of heating surface to grate surface 48.7, fan wheel for Howden draft 66 inches diameter with 34x34-inch discharge, heating surface in tubes of heater 100 square feet, sectional 4-bladed propeller 13 feet 6 inches diameter and 14 feet pitch. The supervision of construction was attended to for the owners by Mr. Robert Logan, who was also given the best local expert advice in all particulars of construction, equipment and outfit.

The steamer J. H. Outhwaite and consort Barr are among the fleet laid up at this port for the winter, and they have been laid up during the summer. They haven't made a trip since June. After stranding their owners abandoned them to the underwriters and the latter had them repaired at the cheapest possible rates. This happened to be less than 50 per cent. of their value, in which case they were not constructive total losses, and therefore the underwriters paid only the dry dock and wrecking bills. Now the owners have brought suit in the United States district court to have both declared total losses. It is of course possible that these two vessels may be as strong and staunch as they were before stranding but the presumption is that they could not be sold for the same amount. Again, how much extra work, fastenings, strengthening, etc., has been put into them, and how much less will they carry now than before they were abandoned. It is always difficult for underwriters to wriggle out of a constructive total loss when the damage is so large as it was on the Outhwaite and Barr.

BUFFALO.

Special Correspondence to The Marine Record.

The winter fleet, excepting those holding cargoes, are now about all laid up and the crews discharged. Engineers and firemen are the last to quit as they are kept on until steam is no longer required.

Capt. Richard Saunders died last week at Watertown, N. Y., from the result of injuries sustained through falling into the hold of the steamer Coaster, in which the deceased had an interest. Capt. Saunders sailed the schooner L. S. Hammond for twenty-four years.

About one million bushels of grain is being held here in vessels for winter storage, or subject to shippers' option. evidently there is not the rushing demand to ship east that there was a few weeks ago. The vessels holding the grain are the steamers Senator, Clarence Black, J. C. Gilchrist, Spokane, Australia, City of Berlin, George F. Williams and Iosco. Barges Crete, and whalebacks Nos. 132, 111, 109.

The Union Dry Dock Co. having secured the contract from the Western Transit Co. to build one of the largest steel steamers ever put together on the lakes, employment is assured for a large number of skilled workmen until the season has well advanced. The new boat will be a masterpiece for the Union Dry Dock Co.; at the same time, Superintendent Edward Gaskin is fully equal to the occasion at every stage of the important undertaking.

Three of the steamers recently chartered from lake owners by the Manhattan Steamship Co., New York, for service between New York City and Portland, Me., are now at the yards of the Hillman Ship & Engine Building Co., Philadelphia, where they are being rebuilt. The H. E. Runnels, the Westover and Roanoke are already there, and the Josephine and George Farwell are expected later. Changes in these vessels will consist of a general strengthening of all parts and considerable new light work.

There are at present three government marine hospitals on the lakes although there are twenty-three stations at which patients can be treated. Chicago, Detroit and Cleveland are given the three main hospitals, but surely the large district embraced in the marine of Buffalo should be no longer neglected. There is far more reason and cause for the establishment of a marine hospital at this port than there is for a continuance of one at Detroit, in any case the marine hospital service should no longer ignore a port of the prominence of Buffalo.

The fire on the Pennsylvania & Ohio dock, at Duluth, has been extinguished. The one on the Lehigh Coal & Coke Company's dock at Superior was turned over to the insurance company, as water thrown on it seemed to have little effect. The coal was then transferred by wheelbarrows to another part of the dock, which is necessarily slow work. Taking the both losses into consideration the coal supply at the head of the lakes must have been greatly diminished. Positive measures should be taken in the near future to prevent these regular season fires from spontaneous combustion.

Mr. Edward Gaskin, superintendent of the Union Dry Dock Co., gives out the particulars of the new steamer for the Western Transit Co., as follows: Keel, 380 feet; length over all, 403 feet; beam, 50 feet; depth, 28 feet; carrying capacity, 5,700 tons general cargo; speed, thirteen miles an hour on a draft of 17½ feet; equipped with quadruple expansion engines of 2,000 horse-power, to be built by the King Iron Works, with three Scotch type boilers from the Lake Erie Engine Works, for a steam pressure of 210 pounds. The boilers will be 12½ feet in diameter and 12 feet long. The report that another contract for Cleveland parties has been closed is rather premature, though close figuring has been done on that as well as some other new work that is in sight.

VESSELS CLASSED.

Vessels classed and rated by the American Bureau of Shipping in the Record of American & Foreign Shipping this week are as follows:

American screw, Admiral Schley, owned by the American Mail S. S. Co.; Admiral Farragut, owned by the American Mail S. S. Co.; Cienfuegos, owned by Zaldo & Co.; bark, Evie J. Ray; bark, Lillian; schooner, John C. Haynes; schooner, Massachusetts; and Russian bark, Adolph.

CHICAGO.

It is reported from Milwaukee that up to date 650,000 bushels of grain, chiefly corn, have been chartered for winter storage and spring delivery at Buffalo. The last boats placed were the steamers Uganda and Nyanza for 100,000 bushels of corn each at 2¾ cents and the schooner Chickamagua for 150,000 bushels of wheat and rye at 3 cents and 2¾ cents respectively.

It is reported that a girl residing in a Lake Michigan town has recovered $500 damages from a steamboat company for naming a boat after her without asking her permission. The query will occur to a good many, is she a woman? The women who feel this way ought to copyright their names or take it out as a trade mark, so as never to have it changed or appropriated. However, there are but few ladies who don't like the ceremony of christening, or personal naming, etc., and there must be some private reasons for the Michigan girl's objections in this case.

The use of electricity in shipbuilding as well as for the ship machinery, propulsion, etc., is making rapid progress. The portable electric drills used in shipyards have resulted in a marked economy, working as they do as readily in the most inaccesible places or awkward positions as in the open. Another invention of note in this line is an electric riveter, so that now the holes may be drilled and the rivets driven from the same power circuit. This machine will deal with rivets up to one eighth inch diameter at the rate of 120 per hour, requiring for this work only one and a half horsepower.

Grain chartering for winter storage and spring delivery is very quiet, though shippers at Milwaukee are in the market for tonnage and they are bidding rates up. Three cents on corn has been offered. Quite a few vessels that are in winter quarters at Lake Michigan ports are not ready to be chartered until they are put in shape for next season. The capacity of the fleet at Chicago and Milwaukee is small compared with other seasons and the indications are that fair rates will be paid before the opening of navigation. It is expected that Chicago shippers will be in the market for tonnage during the week.

The Graham & Morton Transportation Co. will commence on January 1 the erection of a $35,000 building at its dock, foot of Wabash avenue. It will be a four-story structure, beside basement, and will be 66x196. From the dock the entrance to the building will be so arranged that the shipments will be carried direct to either the basement or the first floor, thereby furnishing twice the amount of flooring heretofore had. Aside from this, there are three upper floors which are reached by electric elevators, that will be used for freight. The company's offices, passenger and freight departments, will be arranged in the front of the building on the ground floor, and all to be completed by the opening of navigation next spring.

Mr. J. W. Duntley, president of the Chicago Pneumatic Tool Co., sailed for Europe a few weeks ago and will give his attention to the interests of the concern in Great Britain and on the continent. The trip is made necessary by increasing foreign business, and reports clearly show that the demand for pneumatic tools in this country is larger than ever before. The facilities for manufacturing at the present plant are employed to their full capacity to keep up with the increased demand on account of the present activity of the ship and navy yards. Orders for stationary and railroad work are also more pressing than ever before. Mr. Duntley has taken across with him letters of introduction to prominent men in the marine line on the other side.

With the advantages of mechanical stokers for boiler furnaces known as well as they are to-day, it does seem a bit strange that the marine engineer has apparently not taken kindly to them; at any rate, they have not yet gained a footing aboard ship. It is worth noting, therefore, that what will probably be the first mechanical stoker installation in existence afloat is now being fitted to the boilers of one of the steamers of the Zenith Transit Line, on the Great Lakes. The stokers will be of the underfeed type, and their performance in their new field of operation ought to prove an interesting engineering experience. There is certainly no very good reason apparent why some device of this class that will work well on land should not work well at sea. The installment in this particular case will comprise six stokers, three under each of the two boilers, and each of these groups is guaranteed to be capable of burning 1,650 pounds of coal per hour under ordinary conditions, and 2,100 pounds when forced.—Cassier's Magazine.

THE ARENA CO., Copley Square, Boston, Mass., offers a $1,000 scholarship in any college to the competitor securing the largest number of subscribers to that journal during the first half of the present year; $50 in cash is also offered for one hundred subscribers and a similar amount for each additional one hundred.

THE officers elected by the Toledo branch of the Marine Engineers' Benevolent Association for the year 1899 are: Past president, Burton Ransom; president, Alpha Page; vice president, John Marshall; recording secretary, James L. Aznoe; corresponding and financial secretary, E. D. Locke; treasurer, F. N. Weise; conductor, Samuel Shantan; chaplain, Jay A. Popp; doorkeeper, Richard Skeldon; delegates to the national convention, E. D. Locke and James L. Aznoe.

MEETING OF THE LAKE CARRIERS' ASSOCIATION.

A special meeting of the executive committe of the Lake Carriers' Association was held at the office of Capt. James Corrigan on Tuesday. Many of the members of the association were not satisfied with the date fixed a few weeks ago, for the annual meeting, which was March 22, and the Tuesday meeting was called for the purpose of discussing the question at greater length. A majority of the members were in favor of holding the meeting in January as heretofore and it was finally decided to call the meeting for Tuesday, Jan. 24. Notices to that effect will be sent to all of the officers and members of the association.

SOME ASTRONOMICAL NOTES FOR JANUARY.

(Communicated.)

The most important astronomical event during the past month was the total eclipse of the moon on the evening of December 27. A more favorable opportunity for viewing the eclipse could scarcely have been desired, and the various phases of the eclipse took place in harmony with the published predictions. Some were disappointed, I suppose, because the obscuration during the total phase was not more marked; but the eclipse was not central, and the earth's shadow was indirectly permeated to an unusual degree by the refracted rays of the sun, the red rays predominating, as evidenced by the copper color reflected from the face of the moon.

The principal winter constellations, Orion, Canis Major, Canis Minor the Gemini, Taurus and Auriga are now conspicuous in our eastern evening sky. Toward the wes Vega, Altair and Denib are still objects of beauty, but they are nightly sinking toward the horizon, and hence slowly losing their accustomed brightness.

Mars, the red planet of war, is now prominent in our evening sky. He will attain his greatest brilliancy January 18.

Mercury, Venus, Jupiter and Saturn are visible only in the early morning hours.

December 31 the earth passed its perihelion, the nearest point of approach to the sun, a little less than 92,000,000 miles distant. The sun came to the meridian to-day about four minutes late. At the close of the month he will be nearly fourteen minutes slow. The increasing daylight in the evening is now quite perceptible, and on the morning of Jan. 8, the sun will rise one minute earlier, and from that date the daylight will continue to drive back the darkness.

D. SATTERTHWAITE,

Toledo, Ohio, Jan. 2, 1899.

THE PARRY SOUND CANADA-ATLANTIC ROUTE.

The success of the new Parry Sound lake and rail line was dwelt upon by speakers at a recent banquet in St. John, N. B. Hugh A. Allen, representing the ocean line that has just made St. John its winter terminus, said:

"The Canada-Atlantic route has brought to Montreal this first year of its existence between 8,000,000 and 10,000,000 bushels of grain and 46,000 tons of package freight. In addition to the large elevators at Parry Sound and Coteau, they will undoubtly erect a large one at Montreal and these will all serve as a storage for grain which would be exported in the winter and increase traffic over these routes to an enormous extent. The Parry Sound route takes its enormous freight from the wheat fields of the west as well as other products which must find their way to eastern markets in winter months. Its freight this season was diverted from Buffalo to Montreal. Wheat and other freights can be landed at Depot Harbor by water for one month or more after navigation has closed at the port of Montreal. This, with a proper elevator system would enable the Parry Sound railway to store at the depot terminal and other points along its line, enormous quantities of grain which, with connections to the lower provinces, would find their way to the markets of the east via maritime ports."

Another speaker, A. G. Blair, said that he hoped to see the Parry Sound route connected with the sea, and he believed that this would result in benefitting the ports of St. John and Halifax and increasing the trade of Canada.

A gentleman prominently connected with the Parry Sound line stated while in Milwaukee last fall that the elevator capacity at Depot Harbor and Coteau landing and the warehouse room also would be doubled at once. This would increase the grain storage capacity at Depot Harbor to 3,000,000 bushels and at Coteau landing to 1,750,000 bushels. The Parry Sound route draws largely from the traffic which has hitherto found its way to the Atlantic via Ogdensburg. This fact was very much in evidence during the time the new line was operated last season.

TO RESUME MINING.

After a period of enforced idleness for more than five years duration the Iron River Mine at Stambaugh, Mich., is to be placed in operation next spring. A company is now being organized in the east for this purpose and there is little doubt that the property will be worked to its fullest capacity.

The mine was formerly controlled by Ferdinand Schlesinger, the great mining king, who met reverses some years ago. The Florence River Iron Mining Company operated it until that company went into a receivership. Judge Ludwig of the Superior Court has entered an order directing the sale of the Michigan property on January 7.

The real estate of the Florence River Iron Mining Company, in Michigan and the property at Florence, Wis., including the Florence mine, will be sold on Feb. 7.

FLOTSAM, JETSAM AND LAGAN.

The captured Spanish gunboats Alvarado and Sandoval arrived safely at Norfolk, Va., from Guantanamo, Cuba. They will be repaired and refitted at the Norfolk navy yard.

The father of Miss Noble, who was a passenger on the ill-fated Mohegan, which was wrecked in the English Channel, has started an action against the company to recover damages.

The Merritt & Chapman Wrecking Co., of New York, has made a contract with the government for the raising of the Spanish warship Reina Mercedes, which was sunk off Santiago de Cuba in the battle of July 3d.

During the last fifty years the size of steamships has been multiplied twentyfold, the horse power employed to drive them has been multiplied fortyfold, and the speed with which they traverse the sea has increased threefold.

An exchange says it takes a rich man to draw a check, a pretty girl to draw attention, a horse to draw a cart, a porous plaster to draw the skin, a toper to draw the cork, a free lunch to draw a crowd and an advertisement to draw trade.

Excavation work on the Erie canal was started on July 4, 1817. It was completed Oct. 26, 1825; at a cost of $9,027,456. It was ordered enlarged in 1825, and the cost of enlargement was about $25,000,000. The sum of $9,000,000 appropriated by the state of New York appears to have been squandered on its so called improvement last year.

A curious juxtaposition of names is to be found in a recent Lloyd's List, where the schooner Twelve Apostles, of Portmadoc, Wales, is reported as wrecked at Hell's Mouth. There are several Hell's Gates and "holes in the wall" which the Twelve Apostles could have discovered as well as the entrance of Hades.

The Secretary of the Navy has at length determined to begin the sale of such vessels of the auxiliary navy as are not considered fit for the naval service. A number of these vessels are modern, of excellent type, high speed and splendidly appointed but were built as pleasure craft and therefore lacking in many things that go to make up a naval vessel.

The Charles C. Hillman Ship Company, Philadelphia, one of the oldest ship building firms in the country, made an assignment last week for the benefit of creditors. No statement of assets or liabilities was made with the deed of assignment. Charles Hillman, the president of the company, who established the business more than 50 years ago, died at his home only a few days ago.

The case of Gustave Stadleman against the White Line Towing Co., of Duluth, was last week transferred from the state district court to the United States court. It is a suit for damages for personal injuries. Stadleman was a fireman on one of the tugs of the White Line Towing Co. He claims that while engaged in his duties as fireman last August flames came out of the furnace door and into his face, burning him so as to disfigure his face and seriously injure him.

Every man employed by the Continental Iron Works, in Brooklyn, N. Y., received a substantial present from the management of that firm on Saturday last. It was a gift of money ranging in amount from $25 to $75, according to the length of service of the men. It was in these works that the Monitor, of the civil war, was constructed. The presents were an offering for the men's faithful service during the late war, when the capacity of the place was taxed in the manufacture of shells.

Of course it is only coincidence, but it is related by a contemporary as being interesting. A sea captain relates that right after the steamer Portland was built he received a large picture of her. It was framed and covered with glass and quite heavy. He hung it in his parlor and never took it down during these years. The Sunday when the Portland went down, he and his wife were sitting in the parlor reading when suddenly the picture fell with a crash, smashing the glass into a thousand pieces.

Seaboard New York, which lays claim to being "the representative journal of the shipping interests of America" will change its name this year to the Nautical Gazette, Seaboard with which was incorporated about a dozen defunct journals, has recently changed hands, Mr. Alex. Smith having severed his connection therefrom. The Nautical Gazette will hereafter be published in a form of half its present size, without any diminution of matter, however, as it is simply to be folded across lengthwise in the future.

The Kansas City Star under a Colon, Colombia, date of December 8th, prints a lengthy article signed by their special correspondent, Mr. J. D. Whelpley regarding the abandonment at sea on November 1st of the late Spanish warship Infanta Maria Teresa while being towed to New York from Santiago. "The dispatch intimates that the Teresa was abandoned unnecessarily, that the ship at the time was not in a sinking condition and that the weather, contrary to the general belief, was comparatively calm." Of course the Infanta was prematurely abandoned, notwithstanding the naval court of inquiry commended all hands for deserting her. The Infanta, however, toddled along by herself all right for a couple of days, covered a distance of over fifty miles and eventually picked out a good place to plant herself so as not to be fooled with by amateur wreckers or blue jackets again. She'd tried their kind of nursing, piled them over the side and started of on a roving commission on her own account, resting where and when she felt like it, besides picking out a secure place to leave her leones.

SHIPPING AND MARINE JUDICIAL DECISIONS.

[Prepared especially for the Marine Record.]

Where the evidence on an issue as to which vessel was in fault in a collision was taken in open court, the finding of the district court will not be disturbed on appeal unless clearly against the weight of evidence. The Captain Weber, 89 Fed. Rep. 957.

The owners of land fronting on the Ohio river used by them as a wharf for hire may enjoin another from mooring his barge to their property, though it may have been dedicated by them as a street. Exterkamp vs. Covington Harbor Co. et al. 47 S. W. Rep. (Ky.) 1086.

In exercising jurisdiction in admiralty upon a libel for wages against a foreign vessel, the court will, through comity, administer the law of the country whose flag the vessel carries, to which law the seamen, by shipping for service on such vessel, subject themselves. The Belvidere, 90 Fed. Rep. 106.

Where a libel for injury to goods in shipment alleges that the injury consists of breakage, the case is prima facie within an exception in the bill of lading against liability for loss or injury from breakage, and the burden rests on the libelant to prove that the breakage occurred through the negligence of the carrier. The Henry B. Hyde, 90 Fed. Rep. 114. 82 Fed. Rep. 681, affirmed.

In actions brought on behalf of the next of kin against a steamship company to recover for deaths resulting from the sinking of a vessel which was a total loss, defendant being therefore relieved from all liability for faults of navigation, plaintiffs will be required to give security for costs, unless the inability of all the persons interested in the recovery to do so is shown. 90 Fed. Rep. 105.

Passengers who have paid their passage on a vessel cannot be held to their contract, but are entitled to rescind and recover their passage money, where, before sailing, the vessel was reported in the press as rotten and unsafe, and they were justified by their information and her appearance in believeing her so, though she may in fact have been staunch and seaworthy. The Guardian, 89 Fed. Rep. 998.

The fact that the master of a vessel did not furnish the crew with the full supply of lime juice required by law and the shipping articles, in the absence of any claim that the men suffered or were made sick by reason of such deprivation, and where no complaint was made on that ground, does not authorize the crew to abandon the ship before the end of her voyage, and recover their wages, nor entitle them to extra wages. The Belvidere, 90 Fed. Rep. 106.

A tug boat and a tow lashed to it are deemed one vessel under steam. Hence the master of a tug towing a vessel so joined to it, and directing the movements of the latter by giving orders to its crew from the pilot-house of the tug, is not engaged in an act of pilotage, within 1 Hill's Ann. Laws, § 1908, requiring pilots engaged in piloting vessels over the pilot grounds of the Columbia and Willamette rivers to be licensed. State vs. Turner, 55 Pac. Rep. 92.

The action of a board of county supervisors in granting a franchise for a wharf, under Act March 23, 1893, requiring a publication of a notice describing the f anchise to be granted, and the opening of bids and the awarding of the franchise to the highest bidder, does not call for the exercise of judicial functions, and therefore certiorari will not lie to review such action. People ex rel. Dean vs. Board of Sup'rs of Contra Costa County, 55 Pac. Rep. (Cal.) 131.

Act March 23, 1893, § 1, providing that every franchise "to erect or lay telegraph or telephone wires, to construct or operate railroads along or upon any public street or highway, or to exercise any other privilege whatever," to be granted by a county or city, shall be granted only on conditions provided in such act, applies to a franchise granted by a county to construct and maintain a wharf. People ex rel. Dean vs. Board of Sup'rs of Contra Costa County, 55 Pac. Rep. (Cal.) 131.

Under the rule which requires steamships to keep out of the way of sailing vessels, a steamer is not relieved of such duty by the fact that a sloop approaching from an opposite direction on a river also has machinery operated by a naphtha or gasoline engine as an auxiliary power, and the steamer is prima facie liable for a collision, and can only relieve herself by showing th t the accident was inevitable, or that it was caused by the culpable negligence of the sloop. The Captain Weber, 99 Fed. Rep. 957.

A collision occurred between a steamer and a sloop going in opposite directions on a river the channels of which was about 1,200 feet wide, and the usual course of steamers about the middle. The water was nearly slack, and the night calm and clear. Held, that evidence showing that the steamer had no proper lookout, and that the collision took place not more than 150 feet from the bank, and probably much less, warranted a finding that the steamer was in fault. The Captain Weber, 89 Fed. Rep. 957.

Where the libelant, a workman on a vessel lying at a dock, attempted to leave the ship by means of a ladder, by reason of the master's negligence not secured properly to the ship's rail, whereupon the ladder fell, and the libelant was thrown to the dock, and injured, it is inferable that the master's breach of duty took effect upon the libelant while he was upon the ship; and, although his physical injury was completed by his fall upon the dock, a court of admiralty has jurisdiction. The Strabo, 90 Fed. Rep. 110.

The steamship N. having stranded on Colorado Shoals in the harbor of Santiago de Cuba, after several attempts to pull her off by the large steamer Mamaluke and the tug Colon, was got off on the fourth day. A large claim of several thousand dollars was interposed by the steamer for injuries to the machinery by sanding, the wear of bearings and the necessary expense of docking and repair, besides payment for salvage service; but the amount of injury during the service not being definite or clearly separable, held, that the latter should be treated as among the incidents and risks of the service; and that the Mamaluke, considering her risks, and the danger and value of the N. ($125,000) should be allowed, including $400.82 for coal and broken hawsers, the sum of $7,100.84; and the Colon the sum of $815. The Niagara, 89 Fed. Rep. 1000.

The steamship Alvena outward bound through the Swash and Gedney Channels, and the British Queen inward bound through the Gedney and Main Channels, came in collision near the junction of the Swash and Main channels; this was caused, as found upon very conflicting evidence, by a misunderstanding of the signals given and heard, in consequence of which each vessel was navigated contrary to what was expected by the other; held, upon a review of all the evidence and circumstances, that the failure of each vessel to navigate as expected by the other and in accordance with the signal as understood, ought to have been seen by each steamer and recognized before the danger became imminent, and a considerable time before either steamer reversed; and that each vessel was in fault, therefore, for not reversing until they had come within one-fourth of a mile of each other, instead of when one-half a mile apart, as required by rule 3 of the supervising inspectors, which requires in such circumstances that vessels when within one-half a mile of each other shall immediately reduce their speed to bare steerage way. The British Queen, 89 Fed. Rep. 1003.

The new steamer Phœnicia on her first voyage from Hamburg to New York, when in mid-ocean on January 25th, was discovered to have a leaking port, by which cargo in compartment No. 4 was damaged. The port could not be screwed tight so as to stop the leak until the outside iron blind was removed; when that was removed the port was screwed watertight. Upon arrival at New York the brass ring of the glass door was found to be bent inwards at the top and bottom 1-16 of an inch, on a vertical axis. The port in question was near the bridge about two feet and one-half above the water line, and 175 feet aft of the stem. A few bolts were found a little loosened about this port, and in its vicinity, and there were some scratches there; but no bolts were loosened nor was damage done for 75 feet or upwards forward of the port, nor until about abreast of the foremast where there was again some damage on the same starboard side of the ship, which arose from contact with fenders on entering Havre or departing. The expert evidence showed that violent contact with the side of the ship where the port was, might cause the glass door to be sprung, or the blind to catch, as it was found when the leak was discovered. There was no proof of such inspection at Hamburg before the ship sailed as would show the port to have been then water-tight; held, (1) that the burden was upon the ship to prove seaworthiness at the time of sailing; (2) that in the absence of sufficient inspection of the port to show seaworthiness on sailing, the ship took the risk of her inability to prove satisfactorily that the leak was caused in fact by the contact at Havre; (3) that upon a careful consideration of all the facts and circumstances, the ship had not sustained this burden, and the probabilities were against her contention that the leak was caused by the contacts at Havre, and that the ship was therefore answerable for the loss. The Phœnica, 90 Fed. Rep. 116.

ERIE CANAL IMPROVEMENT.

The special committee appointed by the Canal Enlargement Association has submitted the following as the result of the committee's investigations:

"The committee recommends that the locks be enlarged to a length of 260 feet long and 26 feet wide, thus accommodating two sectional canal boats 125 feet long and 25 feet wide, capable of carrying, at the present depth of water, 16,000 to 18,000 bushels of wheat at a minimum freight rate of one cent on each bushel from Buffalo to the port of New York, and to carry with an increased depth of water about 25,000 bushels."

The committee gives it as the opinion of its members that the improvement indicated in the above report would again place the canal in position to compete successfully with any and all routes, rail or otherwise, from the West to the seaboard. The committee p aces the cost of this improvement, on the opinion of competent engineers, at not more than $3,000,000 or $4,000,000.

A bill, to be presented to the Legislature, embodying the above practical plan of Erie canal enlargement, will be drafted and an effort made to carry it through as expeditiously as possible.

It is the opinion of all the commercial and business men of the state who have examined the question at all, that direct relief is necessary to save the Erie canal. With a view of advancing the work the committee urgently recommended that the representatives of Erie county and the state of New York as a whole use their best exertions to advance the recommendations of the report.

DETROIT MARINE POST OFFICE.

LETTERS REMAINING ADVERTISED IN DETROIT, MICH., POST OFFICE JANUARY 4, 1899.

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Allen John, Str. Cort
Anderson Hans, Sch. Yukon
Axford David, Str. Britannic
Allore Wm., Str. Iosco
Albracht Henry, Str. Helena
Allen Wm., Str. Glasgow
Abbey Arthur, Str. London
Black Edwin, Str. Stone
Brown Capt. W. J.
Burgett Frank
Bernie Mrs. A., Str. Progress
Burns Edw., Str. A. Orr
Bedford J. P., Str. Olympia
Bassett Gilbert, Str. Sibley, 2
Bellor Fred, Sch. Ogden
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Blackburn Fred, Str. Ranney
Baker Albert, Bge. Racine, 2
Blauvett Geo. Str. Queen West
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Bennett, A. L., Str. Sanilac
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Bailey Frank, Str. McVitte
Baxter Mrs., Sch. Marvin
Benson Jno., Str. P. Minch
Barney Richard, Sch. Montgomery
Burns Chas., Str. Lindsay
Brown Emory, Str. Joliet
Brown Miss F., Sch. O. Jeannette
Burke Jas., Str. Glasgow
Bennett Jas., Str. Glidden
Barry Dan, Str. G. Farwell
Berney Joe
Burns J., Str. Pathfinder
Bell W. N., Str. Geo. King
Bunce Geo., Str. Langell
Coyle Geo., Str. Masaba
Carr John, Str. Bangor
Carter Dave, Str. Ogemaw
Cummings F. P.
Carrier Dave, Str. Hebard
Currie D. J., Str. Bulgaria
Childs Edmund
Campbell Alex.
Cunningham Ed., Str. New Orleans
Carlson Alf., Str. Rees
Clark John, Str. Queen West, 2
Crutchfield H., Sch. Savidge 3
Cowels W. J., Str. R. Stewart, 2
Conlon Jno., Str. R. Fulton
Cadigan Jno., Bge. 116
Collisson Geo., Str. White Star
Cole W. H., Str. Wilhelm, 2
Christensen M., Str. Wolf
Cleghorn Alex., Str. Vail
Carr Jno., Str. Volunteer
Crook J. R., Bge. Tokio
Chandler Carrie, Bge. Tyson
Coleman Josephine, Bge. Eleanor
Corrigan Thos., Bge. Escanaba, 2
Corry Shell, Bge. Biwabic
Cornelinsen Jno., Bge. Celtic
Campbell Ross, Str. Carpenter
Clark A. B.
Curtis Geo. W., Str. J. C. Lockwood
Calhoun Capt. B. Sch. Leighton
Coleman P., Str. Langell Boys
Campbell Don, Str. Juniata
Calcoutt Richard, Str. Ionia
Campbell Jno., Str. Iron Age
Campbell Elmer, Bge. Gebhart
Colinge Jas., Str. Glidden
Carrier D., Str Germanic, 2
Cummings Jas., Str. Globe
Chiars Adolph, Str. N. Mills
Clark Thomas, Str. Egan
Cottrell A. T., Str. Yakima
Croft Sherman, Str. St. Paul
Conley Mrs. Geo., Str. Carnegie, 2
Duncan Jno.
Denis J. A., Str. Normandie
Dunn Lewis, Str. Penobscot, 2
Dulac Louis, Sch. Pomeroy
Dornbrook W., Str. Roman
Dwyer A. J., Str. Raleigh
Durrant S. O., Str. St. Lawrence
Dorman Robert, Str. S. E. Sheldon
Depew Ward, Sch. August Smith
Dupont Paul, Str. Volunteer
Diem H. C., Sch. Troy
Dewitt Roy, Str. Bielman, 2
Downing W. J., Str. Bermuda
Dray W. J., Str. Cormorant
Derush Jos., Str. Marquette
Delano A., Str. M. A. McGregor
Duff Capt. Wm., Sch. Montgomery
Dapp Aug., Str. Leland
Duff J. R., Str. Livingstone
De Forest R. C., Str. Kirby
Dupuie Fred, Str. Hiawatha
Davidson L., Sch. Halstead, 2
Dyer W. J., Str. Gratwick, 2
Devin D. J. Str. Bermuda
Egan Dan, Str. W. P. Ketcham
Edgar Jennie, Sch, Our Son
Eagan F. D., Str. Saxon
Edward Jno., Str. Torrent
Edwards Frank, Sch. Bahama
Edwards Jennie, Sch. Biwabik
Eckbert Sophie, Str. Lincoln
Ennes Everett, Str. S. Mitchell
Fers Chas., Str. Turner
Fortion Paul, Str. Sibley
Forbes Richard
French Jno. Sch. D Wallace
Fisher D. M., Str. Coffinberry
Forster Mrs. M. J., St. Devereaux
Faulkner Geo., Str. Forest City, 2
Fitzgerald F. L., Str. Britannic
Fowlie, A. A., Str. Berlin
Findley J. C., Str. La Salle
Fox Jas., Str. Leuty
Forbes Richard, Bge. Montgomery
Filson D. H., Bge. Antrim
Galerno Herb., Str. Toltec
Graham J., Str. Algonquin, 2
Generous Paul R.
Graves Walter E.
Gamble W. L., Str. Omaha
Griffin Wm., Str. St. Lawrence
Greer Alex., Str. Samoa
Gerwin W. J., Str. Cort
Greer Thos., Bge. Fritz
Gotham Jas., Bge. M. Wilson
Glenam Thos., Bge. Drake
Garlock T. J., Bge. Dashing Wave
Golden John
Goodwin Eugene, Str. Argo
Goldsmith Lem, Str. Columbia, 2
Grant Theo., Str. Carpenter
Govenlock Geo., Sch. McWilliams
Greg Frances, Str. Mohawk
Gainer Thos., Sch. Merritt
Graham M. Str. Maricopa
Ganman M., Sch. Homer
Gould Geo., Str. C. H. Green
Hart Chas., Bge. 107
Hueffel E.
Halstead F. A.
Hamilton Geo. D.

Hermansen L., Sch. Fitzpatrick
Hubert Fred, Str. Pawnee
Hollenbeck Burt, Str. Pueblo
Harris Elda, Str. Presque Isle
Hollingshead Jno.
Hagan Wm., Str. Street
Hable Jos., Str. Stimson
Hansen Claud, Str. Sparta
Henshaw Geo., Str. N. Torrent
Hough Tim, Sch. Columbian
Hagerty Michael, Sch. Connelly Bros.
Hunt Andrew, Sch. Magee
Hill Louis, Str. Lincoln, 2
Hamilton Jas., Str. Leland
Harrington J. S., Str. Langell Boys
Hungerford E. K., Str. Langell Boys
Heuell Wm. Str. Josephine
Haines Chas., Str. Iroquois
Handy C. A., Sch. Interlaken
Hanna Add., Str. Italia
Haseldren Walder, Bge. 105
Hall W. J., Str. Glidden
Hyde Capt. H., Sch. Grandy
Howell A. E., Str. Choctaw
Irwin Chas., Str. Josephine
July W. J., Str. Omaha, 2
Johnson Eugene, Str. Neff, 2
Johnson Frank, Str. Sibley
Johnson Swen, Str. Trevor
Johnson Frank, Sch. Antrim 3
Jennings T. H., Str. Briton
Jackson Jno., Bge Comstock
Jones J. E., Str. Marina
Jones Louis, Str. Josephine
Knox James, Str. Harpers, 2
Knox James, Str. Nimick
Knight Burt, Str. Marquette
Keyes R. E., Str. Geo. Gould
Kennedy Ed., Str. Curry
King Eli, Str. Donaldson
Keenan Wm., Bge. Drake
Krankel Chas., Str. Volunteer
Kraft Christine, Bge. Vinland, 3
Kittler Simon, Str. St. Lawrence
Kerr Jas., Bge. 107
Kennedy J., Str. Schuck
King W. G., Sch. Fitzpatrick
Keig R. L., Str. Geo. Orr, 2
King W. A., Str. Oades
Kraus E. J., Str. G. Farwell
Larsen H., Sch. Gawn
Logan Jno. A., Str. ——
Lequee Jno., Str. Sibley
Lindsay Alex.
Lowery J. H.
Landy Simon, Str. Oglebay
Lawrence Jno., Str. Nyanza
Loveless R., Str. H. E. Packer
Lancey Thos., Str. Pabst
Lockwood Mrs. Celia, Str. Pratt
Lowers Jno., Str. Pratt
Lawrence Emie, Str. Raleigh
Leslie Thos., Str. St. Lawrence
Lyon Capt. Thos.
Lynch E. P., Str. Cort
La Forge Frank, Str. Yuma
Lynx J. F., Str. Yuma
Lee W. P., Str. Ward
Laneto Henry, Str. Lewiston
Lavely Mose, Str. Lindsay
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Lubahn H., Str. Huron
Mack Burt, Str. Orinoco
McConnell A., Str. Langell
Miller Edw., Str. C. A. Eddy
McGuire Nellie, Sch. J. Martin
Martin Peter, Str. Olympia
Minet Jean, M.S.S. Hancock
Molthee R. K.
Mitchell Jas.
McCabe O. J., Str. Volunteer
McKay Jno.
McGougan, Capt. Angus
McKagett Lizzie, Bge. Boscobel
McMillan Thos.
McDonald Jas. A.
McCarron W. M.
Merrell Henry, Str. Oades
McAlpine Hugh, Str. Nicaragua
McDonald Frank, Str. Pawnee
Meldrum O. H., Str. Pathfinder
McGrath Thos., Sch. Reddington
Murdock Herb, Str. Rhodes, 2
Morse Otis, Str. Raleigh, 3
Mack Jno. Str. Sheldon
McRae Ken., Str. St. Paul
McVicar D., Str. Ericsson
Mack Bert, Str. Stephenson
McBride J. A., Sch. Woolson
Marsh W. A., Str. Waldo, 2
McIsaac, Str. Manchester
McDonald D., Str. S. Mitchell
McAllister Thos., Str. S. Marshall
McComb Jas., Str. Veronica
McLeod Don, Str. Troy
Moore Nellie Str. Algonquin
Mitchell Bert, Str. Algonquin
McGinnis Al., Str. Baldwin
Miller H., Sch. Bottsford
McLean M. M., Str. Benton
McLeod Wm. Str. Bangor
Mead Hugh, Str. Briton
McNeil J. R., Str. Centurion
Miller Barney, Str. Choctaw
Menmuir Chas., Str. S. Mitchell
Meyers Theo., Str. Empire City
Miner Arch, Str. Frontenac, 2
Mansfield Frank, Str. Gilbert
McClarety Jas., Str. Germania
Meyers Al., Sch. Halsted
Maxwell R., Str. Gettysburg
Murk Perry, Str. Hope
Morris C, Str. Iron Duke
Magner Ed. Sch. Interlaken
McCabe A., Str. Iron Age
McKinnon A., Str. V. H. Ketcham
McCallum Pete, Str. Juniata
McKinnon A. D.
Montgomery W., Str. Lindsay
Newton G. M.
Nicholson J. W., Str. St. Lawrence
Ornstine Emma, Str. Hesper
Oldman Geo., Str. Louisiana
O'Brien Larrie, Str. Curry
Olson Otto, Sch. Athens
Ornstine H. W., S r. Fay, 2
Ott Frank H., Str. R. Fulton
Oliphant J. D., Str. Cort
Owen W. M., Str. Pringle
O'Connell Thos. Sch. Georger
O'Neal Thos., Str. Ogeman
Ossier Jerry, Str. Colgate
Owen W. J., Str. Corsica
Ostberg Jno., Str. German
Powe J. H., Str. Normandie
Pacock H., Str. Pentland, 2
Parker Eph., Str. Pratt
Parker Lizzie, Str. Pratt, 2
Pentland E., Str. Queen West
Potter Albert, Str. St. Lawrence, 2
Peters J. A., Str. Saxon, 2
Perew Frank, Str. Samoa
Payne Chas., Str. Volunteer
Pelkey W. P., Str. Brazil
Pringle Ralph, Str. Colonial
Parson Levi, Str. Colonial
Price Jno., Str. Coffinberry
Purvis J. G., Str. Coffinberry
Purdy A., Str. Helena
Powers E. W., Str. Manchester
Ryerse Capt. L., Tug Protector
Ryan Jas., Sch. Kilderhouse
Reardon Ray, Sch. Arenac
Reill Capt. Fred
Rongan Chas.
Reilly W. S., Str. Waldo
Ramage W. T., Str. Normandie
Robarge C. M., Str. N. Light
Roberts A. L., Str. Prentice
Richter Wm., Str. Paris
Richley Theo., Str. Pine Lake
Roy Egar, Str. Pratt
Rettan Herb., Sch. Reddington
Reid Mrs. A., Str. Rees
Reif Andrew, Sch. Sonsmith
Regan H. J., Str. Fulton
Rolison Jno., Str. Wotan
Reilly W. S. Str. Waldo
Rappottz Jas., Str. Escanaba
Ritchie W. S., Str. S. Mitchell
Robertson G. W., J. E. Mills
Russell W. B., Str. Joliet
Robinson L., Str. Iron Age
Rose J. D., Str. Gratwick No. 1
Rattray Geo. E., Str. German
Stackhouse W. H., Str. Florence B.
Stam M., Str. P. Minch
Sampson A., Str. A. A. Parker
Styschke A., Str. Colby
Strong C. J., Str. Arizona
Sunderland E., Str. Amazonas
Siddals Emma, Str. Williams
Snoffie Wm., Bge. Dayton
Selby J. C., Str. Masaba
Shaw Jno., Str. Oglebay
Scott G. H., Str. Normandie
Smith H., Sch. Reddington
Stegman Al., Str. Roman
Sherman B. F. Str. Queen West
Seelye Clinton, Str. Queen West
Stone Capt. Jno., Sch. Stone
Smith Jno. Str. St. Paul, 2
Stewart Jas., Str. Schoolcraft
Shaw Robt. Str. Susquehanna
Stevenson L., Str. Senator
Sandvick Jno., Bge. Corliss
Stockwell Jno., Str. Bessemer
Semple W. H., Bge. 107
Scott Joe, Str. Waldo
Shipley D. R. Bge. Teutonia, 3
Sturmer J. G., Bge. Teutonia
Sayen Fred, Str. Baldwin
Seiler Geo., Str. Corona
Strong Capt., Bge. Cahoon
Snelgrove R. M., Str. Comstock
Solon J. F., Str. Madagascar
Shaw W. W., Str. Mahoning
Sanscramte L., Str. P. Minch
Stoat Altie, Bge. Lozen
Star Daniel, Str. La Salle
Sangbush Jno., Str. Leland
Satliffe R., Str. Josephine
Seymour Jno., Str. Johnson
Snyder Nettie, Str. London
Squire Guy, Str. Huron
Spencer Geo., Str. Granada
Stalker Capt., Str. Golden Age
Schug Jno., Str. Frontenac
Sweeney F. P., Str. German
Schwartz Geo., Str. Gladstone
Tummon M., Str. Queen City
Todd Bethel
Thomas Wm. W. Str. Nicol
Taylor Wm. C., Str. Pine Lake
Thody Wm., Str. Rockefeller
Till Jas. P., Str. Quito
Tomhaffe Wm., Str. St. Lawrence, 2
Tallman Alex., Str. Waldo
Thurtle Thos., Sch. Tyson
Tyre J. J., Str. Briton, 2
Thorn Gilbert, Str. S. Mitchell
Tillack Chas., Str. S. Mitchell
Thurston Sam'l, Str. London
Thurman, Str. Kendall, 2
Thompson J. B., Str. Hadley
Tardiff Jos., Sch. Grampian
Taylor W. F., Str. Forest City
Vaneer Arthur
Vasbinder Aaron
Van Buren Guy
Virley Fred, Str. St. Lawrence
Vaxter Wm. H., Str. Flower
Warner Clarence
Wilkes Joe, Bge. Roebling, 2
Weaver J. C., Str. Stephenson
West Chas. S., Str. Pickands
Will H. A., Str. Naples
Worthley Lafayette
Wilson Jos., Bge. Krupp
Woodham Harry, Bge. 107, 2
Wright Geo. W., Bge. 110
Walker Joe, Str. Zenith City
Whitbeck Claude, Str Viking
Wilson F. P., Str. Elfin Mere
Wilcox A. J., Str. Donaldson
Wischmann Aug., Str. Black Rock, 2
Wright C. B., Str. Mariposa
Wadell Chas., Str. Lewiston
Wellman George W., Sch. Leighton, 2
Williams Judd, Str. Lindsay
Wood Jas., Str. Joliet, 2
Wood Eugene, Str. Gratwick No. 1, 2
Walle Martin, Str. Holden
Ward J. Str. Gratwick No. 1, 2
Woodward Capt. T. C., Sch. E. C. Hutchinson
Williams Eugene, Str. Cadillac
Wisner E. S., Str. Curtis
Yohnson Martin, Str. Aurora

ASSISTANT INSPECTOR OF HULL MATERIAL.

BUREAU OF CONSTRUCTION AND REPAIR
(NAVY DEPARTMENT.)

FOR DUTY AT THE WORKS OF ALLEN WOOD COMPANY, CONSHOHOCKEN, PA.

February 7-8, 1899.

The United States Civil Service Commission announces that commencing February 7, 1899, at 9 a. m., examination will be held at any city in the United States where the Commission has a board of examiners, for the position of Assistant Inspector of Hull Material, Bureau of Construction and Repair (Navy Department), for duty at the works of Allen Wood Company, Conshohocken, Pa., at a salary of $5.00 per diem.

The examination will consist of the subjects mentioned below, which will be weighted as follows:

SUBJECTS:	WEIGHTS:
Letter-Writing	5
Arithmetic	5
Theoretical Questions	25
Practical Questions	40
Experience, to be determined by testimonials and questions relating to previous experience	25
Total	100

Two (2) days of seven (7) hours each will be allowed for this examination.

Applicants will be required to submit testimonials from former employers and others, tending to show their previous experience. These testimonials should be submitted with their applications, and will be returned to them after their papers have been graded.

This examination is open to all citizens of the United States who comply with the requirements, without regard to race or their political or religious affiliations. All such persons are invited to reply. They will be examined, graded, and certified, with entire impartiality and wholly without regard to any consideration save their ability as shown by the grade they attain in the examination.

Persons desiring to enter this examination should at once write to the Commission for application blanks (Forms 304 and 305) and special forms, which should be properly executed and promptly forwarded to the Commission at Washington, D. C.

December 29th, 1898.

The new vessel for the Hamburg-American line, which is to beat every vessel afloat at present, is to be 670 feet in length, and will have engines of 34,000 indicated horsepower. Her crew will consist of 420 hand all told. She is to cover the distance from Land's End to Sandy Hook within five days, developing a mean speed of 23 knots. The cost of this vessel is to be $2,875,000.

ASSISTANT SHIP DRAFTSMAN.

ESPECIALLY QUALIFIED IN DESIGNING ELECTRICAL MACHINERY OF WAR VESSELS, NEWPORT NEWS, VA.

March 7-8-9, 1899.

The Uuited States Civil Service Commission announces that beginning March 7, 1899, at 9 o'clock, a. m., examination will be held at any city in the United States where it has a board of examiners, for the position of Assistant Draftsman Especially Qualified in Designing Electrical Machinery of War Vessels, at Newport News, Va., at a salary of $4.00 per diem.

The examination will consist of the subjects mentioned below, which will be weighted as follows:

SUBJECTS:	WEIGHTS:
Applied Mechanics	15
Calculations and Theoretical Work	20
Practical Work	20
Drafting	20
Experience, to be determined by letters and testimonials submitted by the applicant in reference to his previous experience, and by questions in examination covering a description of his technical experience	25
Total	100

Three (3) days will be allowed for this examination: First day, subject 1, five (5) hours; Second day, subjects 2 and 3, eight (8) hours; Third day, subject 4, seven (7) hours.

The subjects of this examination are practically the same as those for ship draftsman (see Section 74, Manual of Examinations revised to July 1, 1898), but the questions will have special bearing upon electricity and the auxiliary electrical machinery of war vessels. The Department desires men for this position who have had some years' experience in the class of work which they will be called upon to perform.

This examinotion is open to all citizens of the United States who comply with the requirements, without regard to race or to political or religious affiliations. All such citizens are invited to apply. They will be examined, graded and certified, with entire impartiality and wholly without regard to any consideration save their ability as shown by the grade they attain in the examination.

Competitors will be supplied with all necessary writing paper, drawing paper, and tracing linen, for the examination, but must bring pen and ink and all the instruments and other materials likely to be used in connection with the examination. Applicants may bring standard engineering handbooks, logarithmic and other numerical tables to the examination room; but they may or may not be permitted to refer to any or all of them, depending upon the nature of the questions. Instructions in this regard will accompany the list of questions, and will be rigidly observed.

The age limit for this examination is twenty (20) years.

All persons who desire to compete should at once write to the United States Civil Service Commission, Washington, D. C., for copies of the Manual of Examinations, and for application blanks (Forms 304 and 375) and special forms, which should be properly executed and promptly forwarded to the Commission at Washington, D. C.

December 30, 1890.

RECORD OF AMERICAN AND FOREIGN SHIPPING.

(A Register of Construction, Class and Rating).

The volume for 1899 of the Record of American and Foreign Shipping, which is the thirty-first annual issue of this valuable register and classification of shipping, is now being delivered to subscribers. The Record contains full reports aud particulars of about 17,000 vessels of all classes and nationalities; rules for the construction and classification of iron, steel and wooden vessels; rules for the construction and survey of steam machinery and boilers for vessels; provisions for the installation of electric lighting and power apparatus on shipboard, and much other valuable information of special importance to underwriters and all firms or persons interested in shipping. Besides the usual full information for the benefit of subscribers in the way of rules for construction, with their accompanying illustrations and tables, all of the utmost practical and technical value, the work contains such features as lists and addresses of prominent ship builders, dry docks, marine railways, marine machinery and boiler constructors of the United States; list of vessels whose names have been changed; also compound names indexed as per last name; names and addresses of owners of vessels classed in the Record, all of which is nowhere else so completly classified. The work is approved and indorsed by the important boards of underwriters in the United states, and is accepted by merchants and underwriters throughout the world as a standard register and classification of shipping. The Record is published annually and the volume kept up to date by the issuance of regular supplement throughout the year by the American Bureau of Shipping, No. 37 William street, New York.

IN 1898 we have paid to foreign ship owners as freight $140,000,000, which American ship owners could have got if they had not been driven from the ocean-carrying trade by the unequal competition of subsidized foreign vessels. If we are to reach out after the commerce of the world we must send our own ships after that commerce, and we cannot send them unless we make it an object for them to go by putting them upon an equal footing with the merchant fleets of England, Germany, and France.—The Leader, Cleveland, O.

MARINE RECORD

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CLEVELAND, O., JANUARY 5, 1898.

MORE or less chagrin will be felt this week between Buffalo and Detroit, and Cleveland lays pretty near there, at the Atlantic Transportation Co. "flashing in the pan" and putting its affairs in the hands of a receiver. The dozen or so of lake owners who chartered their boats to that line for coast service do not consider they have lost control of their vessels now on the coast, nor yet those in the St. Lawrence, but the failure so early after signing the charter party is considered a good deal of a humbug. Manager Besse secured a little cheap notoriety out of it, though.

THE suggested assembling of an International Convention to consider "Freedom from Capture of Private Property at Sea" during war, is made the theme of a timely paper by Charles Henry Butler in the January number of the North American Review. European nations being generally in favor of such a rule of exemption, Congress should not hesitate, the writer suggests, to clothe the president with authority to enter into correspondence with the governments of the principal maritime nations, or to delay in appropriating the necessary funds to defray expenses as soon as the invitations are accepted, and the preliminaries arranged.

VESSELS built for special purposes are in times of peace, stepchildren of the navy; they are considered expensive and troublesome adjuncts which have to be taken into consideration in maneuvers and impede their rapid execution; and yet how useful they are and how much relief they are able to furnish in actual war! Whenever mobilizations show that there is not a sufficient number of suitable merchant steamers which would be unquestionably at the disposal of the navy at the begining of a war, provision should be made to have vessels set apart which can be easily equipped for such purposes, and, if necessary, to own and keep in corstant readiness a number of such special vessels even in time of peace.

A SOMEWHAT unique admiralty case was heard in the United States District Court, namely, a libel brought for salvage for the saving of United States and French money of the value of $1,050, found by Gloucester fishermen on what the law terms a derelict at sea. The derelict in the case was the dead body of a man believed to have been a victim of the La Bourgogne disaster of last July. The body has not been identified, however. The libel was that brought by the owners of the fishing schooner William H. Cross in behalf of themselves, her master and crew of fourteen men, against the property found. The body was buried at sea and all efforts to find relatives of the derelict have failed. After hearing the case Judge Lowell took the matter under advisement, though he had little occasion for so doing as the salvage laws apply equally and more pertinently in such a case than in any ordinary one.

PATERNALISM.

THE RECORD has had occasion in the past to point out a feature of government departmental paternalism which runs counter to the interests of private citizens, as for instance, life-saving crews, instead of holding solely to the work of humanitarianism, have frequently been engaged in keeping a vessel afloat at the pumps, jettisoning cargo, etc., all of which inures to the detriment of longshoremen, who in a measure earn their living at just such work. There are also cases on record of wrecking operations, or releasing stranded vessels, when such work ought to have been left to the towing and salvage companies organized at nearly all ports and dependent upon their business existence for just such exigencies.

There is always the opportunity and not unfrequently the desire apparent, for government department officials to seek national celebrity or even notoriety, by offering assistance or performing services which come distinctly within the province of private business interests.

To quote a case in point. The Navy Department was surprised recently to receive a most energetic protest from some residents of Key West against what was described as the competition offered by government tugs which were destroying their business. Of course such competition could not be permitted, so a telegram was promptly addressed to the commandant of the Key West naval station, asking for an explanation. In reply he said the government tugs complained of had gone to the assistance of a burning ship as a work of humanity and necessity, and that the complaint was based upon the fact that by so doing the tugs had prevented the wreckers from securing the usual amount of loot and salvage which might have been realized had the vessel been left to the flames.

In this case the department found the explanation or excuse amply sufficient, which it is needless to state was an altogether erroneous conclusion, as was also the unjust charge against the Key West citizens, of looting and wrecking, not to speak of the salvage which might have been realized, as that is purely a citizen's perogative.

The sole duty of the government tugs on the foregoing occasion was in the interest of humanity. Markedly and positively to save life, and there the functions of the general government ought to have ceased. As a police patrol the government tugs would, of course, do their best to support law and order, and accordingly have remained on the spot to prevent wrecking, looting, rapine or murder, or any other breaches of the laws of the United States, and not to enter into competition with private salvage and towing companies. However, as we have said, too much care can not be taken, by the heads of departments, to see that their usually over-paid and under-worked subordinates in office or service, do not exceed their authority in matters of this sort, and never, under any circumstances, so as to clash with private interests.

Perhaps it would not be so far wrong, in some instances, if this national paternalism was stretched a little beyond the ordinary limits, though in doing so there is no telling where it may end, or, at what point state or municipal assistance may be invoked when federal aid is not forthcoming.

Regarding the municipal aspect of this question our attention has been called to the following statement: "I would like to know by what right the city engages in the wrecking and towing business," said W. H. Meyer, of the Milwaukee Tug company. "Two of the city's fire engines and two of the fire boats were employed in the work of moving the Chicago & Northwestern railroad bridge last Sunday, doing work which private individuals might have done. I believe that the city should not engage in private business."

The work to which Capt. Meyer refers was the moving of the draw of the Chicago & Northwestern bridge across the Kinnickinnic river on scows. The fire engines from the houses of companies No. 3 and No. 7 were placed on the scows, by means of which the bridge was to be moved, and were used in pumping out the scows. The two city fire boats, Cataract and Foley, were also used in the same manner, and were utilized as well to break up the ice so that the scows might be placed in position, and afterward the tugs towed the scows and the bridge down the river to its new site. They were kept down there fully five hours.

"I don't know what the city received for the work," said Mr. Meyer, "and I don't care. The city has no business taking the work away from private individuals. I don't believe the city officials have any right to do anything of that kind."

The Milwaukee Tug Co. had every reason to protest against the municipality entering into competition with its own personal interests, just in as great a degree, other business adventures would and should repudiate the right of State or Federal services being rendered gratuitously, and to the point of taking the bread ont of their mouths.

Fair, square, honorable and above board competition is always desirable, it enhances the services performed, and is a commendable feature under all circumstances and from every standpoint; but we object to the citizens of the United States, whether through the meshes of municipal, state, or federal influences, being made a cat's paw of to pull, not hestnuts out of a fire, but to bankrupt legitimate business firms and adventures, by entering into competition with expended capital, skilled and common, or ordinary labor.

THE Weather Bureau, Department of Agriculture, seem to be very much exercised about supplying clerks, forecasters, professors, etc., etc., around Cuba, the Philippines, and Sandwich Islands, so that by means of reports of rainfall and thermometer readings at various points data may be secured bearing on the climate conditions existing in the several archipelagos. The foregoing feature seems to be all right and the Department of Agriculture may laudably desire to emulate the other departments of the government, such for instance as the army and navy, but we would prefer to have seen this almost instantaneous yearning desire for scientific research partly expended in studying the alphabet of the physical geography of the Great Lakes. There was a time when the Weather Bureau seemed to take some little interest in trying to find out what effect, if any, these large sheets of water had over the climate of the adjoining and adjacent territory, but we think they have made a mull of that part of it in some way or another. It appeared as if they cared not about touching upon the weather conditions, while the agricultural side or part of it has been completely ignored, although, it is well known that lake influences are prominent if not paramount factors in agricultural pursuits within a radius of fifty miles from their borders. The branch hydrographic offices, U. S. N., do not presume to touch upon the strictly meteorological, or wind and weather conditions existing on the lakes, in their relation to farmers, fruit growers, and others of similar calling or occupation. The Weather Bureau seems to have attempted and failed in reaching results at home, so that it is perhaps better that its useless timber be shipped to the antipodes, or as near thereto as the department can fire them.

THE steel shipbuilding industry of the Great Lakes gives promise of considerable activity this year. The shipyards are nearly all well employed and new contracts are being placed regularly. There is one of the largest yards yet that is not overborne with orders, and this is probably designedly so, as they seek particularly high-classed work, exact the best figures and make delivery promptly on contract time.

RIVER BRIDGES AT LAKE PORTS.

Lorain, O., is to span the river with a new bridge and its citizens are rather exercised at this time in deciding upon the latest and best type of structure. In reply to a letter upon the subject from Capt. Robt. J. Cowley, Capt. J. S. Dunham, president of the Lake Carriers' Association, also the principal of the Dunham Towing & Wrecking Co., Chicago, has the following to say:

"I think that the people of your city would make a great mistake if they put in any form of a center pier bridge. The day of these old style bridges is past, and I think I can safely and assuredly say that there will never be another bridge built on the Chicago river unless it is of the bascule or lift type. The best bridges we have on our river to-day are those at Van Buren street and at the crossing of the Metropolitan elevated railroad bridge. These are known as the Scherzer rolling lift bridge and are the best bridges of the bascule type which I have seen. They are not only cheap to build but they are quick in opening and closing, saving a great deal of time to both boats and to people crossing the bridges. All in all, I would strongly advise the people of your city to build a bridge of the bascule type.

OFFICERS ELECTED.

At the annual meeting of the Milwaukee Lodge, Lake Shipmasters' Association, the following officers were elected for the ensuing year: President, Daniel Sullivan; first vice-president, C. E. Moody; second vice-president, Fred Schwerman; treasurer, F. C. Starke; secretary, John McSweeney. Daniel Sullivan was chosen delegate to the Grand Lodge meeting, with E. R. Marquette, alternate.

A RECORD GRAIN RECEIVING YEAR AT THE HEAD OF THE LAKES.

No fancy lake freights developed at the head of the lakes this season although it was the greatest year that the grain trade at the head of the lakes has ever known. Receipts of wheat were almost enough to fix Duluth as the greatest primary wheat market in the world. The record shows receipts of 66,763,316 bushels of wheat, and when Minneapolis figures are made up it will be shown that they exceed the head of the lakes market by only about 4,000,000 bushels. The News-Tribune says that this is the closest Duluth ever came to the Minneapolis market for a year's record. Since the first of August Duluth received about 9,000,000 bushels more wheat than Minneapolis, but the receipts at Minneapolis were sufficiently greater than those at Duluth during the earlier months of the year to overlap the year's work by a narrow margin. The total receipts of all grain at the head of the lakes will probably exceed the total at the Minneapolis market.

The great bulk of the Duluth traffic was done during the last four months of the year. During that time 53,443,000 bushels of wheat were recived out of the total of 66,763,316 bushels for the year. In other words, the receipts for the first eight months of the year were but 13,320,000 bushels. The later volume of business handled was enormous, and it is safe to say that no primary market ever before received 44,932,000 bushels of wheat alone in three months' time, the record for this market for the months of September, October and November. The receipts for November amounted to 16,293,768 bushels of wheat, and it is quite likely that this will stand for some time to come as the record for primary markets on a single month's business.

Receipts of all grain, except oats and barley, show an increase over the receipts of the year preceding. It was the greatest year in the history of the market for receipts of wheat, corn, rye and flaxseed. The total receipts of all grain amounted to 86,292,081 bushels. There were received at Duluth and Superior during the year 6,750,000 barrels of flour. This reduced to wheat is equal to 30,375,000 bushels, making total receipts of wheat and wheat products for the year of 97,138,000 bushels, and of 116,667,000 bushels of all grain.

During the year the mills at the head of the lakes took 10,714,000 bushels of wheat from which they made 2,380,000 barrels of flour. The year proved fairly profitable to elevators, and it would have been a bonanza year for them had there been a premium for options so that they might have filled their houses and earned a carrying charge. As it was, with cash wheat continually at a premium, about all the elevators could do was to earn a handling charge. The mills made little, if any, money in the early part of the year in the time of the Leiter squeeze. They made up for it during the fall months, and closed the year quite satisfactorily.

CAPSTANS FOR SIBERIA.

The American Ship Windlass Co., of Providence, R. I., received a cable order last week for sixty of their hand capstans and fifteen of their large steam capstans to go to Siberia, Russia, to be used in some way in connection with the building of the railroad through Siberia. This shows how American manufactures are regarded abroad and it speaks very well for the capstans made by the above mentioned company, as they are being called for from all parts of the world and are becoming universally known on account of their great efficiency and their price as compared with foreign makes.

WRECK AND CASUALTY REPORT FOR THE SEASON OF 1898.

The Department of Agriculture, Weather Bureau, has issued, by authority of the Secretary of Agriculture, a meteorological chart of the lakes dated January 4, containing a summary of the observations and other particulars gathered during the season of navigation just closed.

The table of wrecks and casualties are given as follows:

During the season of navigation 143 vessels were damaged through stress of weather, fog, or smoke, to the extent of $1,796,603, of which amount $1,086,114 is in total losses of 39 vessels, and $710,489 in partial losses, and of the latter amount $42,550 is due to fog or dense smoke. Ninety-six lives were lost during the season on all the lakes, 44 being sacrificed through stress of weather and the remainder from other causes. The number of lives lost on Lake Superior by stormy weather was 6; from other causes, 13; on Lake Michigan, weather, 25; other causes, 15; on Lake Huron, weather, 1; other causes, 4; on Lake Erie, weather, 4; other causes, 17; on Lake Ontario, weather, 9; other causes, none; on the rivers, weather, none; other causes, 2.

The season was remarkable for its freedom from heavy storms during the early spring and until September, and the many heavy storms that occured during October, November and December.

The following is a tabulated statement of vessels which have become total losses during the year 1898:

LAKE SUPERIOR.

Date.	Name of vessel.	Value of hull and cargo.
April 28.	Steamer Servia	$92,480
Sept. 18.	Steamer Colorado	65,000
Sept. 18.	Schooner Mediator	4,500
Sept. 19.	Schooner Southwest	4,500
Sept. 25.	Lighter Monitor	500
Sept. 29.	Steamer Toledo	20,000
Oct. 20.	Steamer Henry Chisholm	90,000
Oct. 24.	Tug Rebel	5,000
Oct. 24.	Barge Wenona	6,000
Nov. 26.	Steamer Harlem	200,000
	Total	$487,980

LAKE MICHIGAN.

Jan. 26.	Steamer City of Duluth	$55,000
April 6.	Schooner Northwest	52,000
Aug. 29.	Steamer Superior	28,000
Sept. 8.	Schooner Richard Winslow	17,200
Sept. 18.	Steamer Keystone	20,000
Sept. 18.	Steamer Queen of the Lakes	6,000
Sept. 18.	Schooner Active	5,000
Oct. 9.	Schooner A. J. Rogers	18,500
Oct. 13.	Schooner L. B. Shepard	4,500
Oct. 14.	Schooner Churchill	38,500
Oct. 18.	Schooner Annie Dall	2,000
Oct. 26.	Schooner L. R. Doty	140,000
Oct. 26.	Steamer H. A. Tuttle	98,434
Oct. 26.	Schooner Barbarian	500
Oct. 31.	Schooner C. Harrison	200
Oct. 31.	Schooner M. Capron	1,000
Nov. 7.	Schooner D. S. Austin	3,800
Nov. 10.	Schooner Lena Neilson	6,000
Nov. 10.	Schooner Minnehaha	1,000
Nov. 8.	Schooner S. Thal	1,200
	Total	$498,834

LAKE HURON.

Oct. 17.	Schooner J. Jewett	$1,800
Oct. 23.	Schooner Bavarian	2,500
Oct. 26.	Steamer E. F. Gould	5,000
Oct. 26.	Schooner George Steele	5,500
Oct. 26.	Schooner C. P. Minch	6,500
Nov. 10.	Barge Fassett	8,500
	Total	$29,800

LAKE ERIE.

Sept. 18.	Schooner Keepsake	$3,500
Nov. 10.	Barge 104	60,000
	Total	$63,500

LAKE ONTARIO.

Oct. 26.	Schooner St. Peter	$6,000
	Grand total	$1,086,114

TABLE SHOWING THE TOTAL AND PARTIAL LOSSES OF VESSELS ON THE GREAT LAKES, AND THE ESTIMATE VALUE OF EACH.

LAKES.	Vessels.	Total Losses.	Est. Value.	Partial Losses.	Est. Value.	Total Est. Losses.
Superior	27	10	$487,980	17	$143,500	$631,480
Michigan	63	20	498,834	43	257,689	756,523
Huron	26	6	29,800	20	67,900	97,700
Erie	13	2	63,500	11	64,600	128,100
Ontario	7	1	6,000	6	6,100	12,100
Connecting rivers.	7	0	0	7	170,700	170,700
Totals	143	39	1,086,114	104	710,489	1 796,603

The season of navigation on the lower lakes opened on April 1 with the departure of the grain fleet from Chicago to Buffalo; the fleet encountered ice fields in the Straits, causing the loss of one vessel and more or less damage to others. The season closed on December 21 with one of the most remarkable ice blockades at the west end of Erie in the history of lake navigation. The season opened on Lake Superior with the passage up through the "Soo" canal of the steamer City of Paris, April 14, and closed with the passage down through the canal of the steamer Orinoco on December 15.

ANOTHER LAKE SUPERIOR DRY DOCK.

The American Steel Barge Co., West Superior, Wis., will begin work within a short time on a large new dry dock. Capt. McDougall, general manager of the company, expects to have men engaged on the work early next month.

CORRESPONDENCE.

☞ We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

PRACTICAL AIDS TO LAKE NAVIGATION.

A WORD TO THE LIGHT-HOUSE BOARD, DOMINION MINISTER OF MARINE, OWNERS, MASTERS, PILOTS AND MARINE INSURANCE AGENTS.

To the Editor of The Marine Record:

Thinking the time opportune to bring before the vessel masters and owners, yes, and insurance people, that there still remains a few important aids to lake navigation that need attention, and fully realizing that the quickest way to get these aids is by agitating the subject, I would like to have you bring the following, which I have in my mind, before all interests through the well-per sed columns of your valuable paper, and, if possible, urge upon the masters, if they think favorable of such a step, to take strong action in their coming grand lodge meeting.

To begin with, it almost seems quite appropriate at this time to extend a vote of thanks to the Light-House Board for finally completing and putting into operation, the light on North Manitou Island. I would suggest, though, that it would be much better if that Board would take the light they lately placed on Forty Mile Point, Lake Huron, and put it on Nine Mile Point, Lake Huron, together with the Fog Whistle. It is of little use where it is, but would be very valuable if placed about opposite Spectacle Reef, or on Nine Mile Point.

A light-ship is badly needed on Lansing Shoal, Lake Michigan. The gas buoy is not good enough for that place, but would be just the thing to put on Squaw Island Shoal, Lake Michigan. Gas buoys are also needed on the shoal two miles south of the S. E. end of North Manitou Island. On the Middle Ground off, or to the southeast of Gray's Reef, and also off Waugoshance Light, where we now have the little black can, it would make that turning point much safer. I also think the Light-House Board ought to afford a gas buoy on Richard's Reef. These few aids would put Lakes Huron and Michigan in much better shape.

Looking at Lake Erie, we should make a strong plea to the Canadian Minister of Marine to give us a good light-ship on South East Shoal, with a fog whistle attached, and if our cousins over the way will not see that we need this about as bad, or propably more, than any thing else at present, then let us call on Uncle Sam to donate one. And why not make another effort to get a light and fog whistle on Point Abino? On our own side of Lake Erie we ought to try hard to hurry up those fog whistles at Erie and Fairport.

St. Clair river needs a light on the lower end of the shoal below Stag Island. In the Sault river we ought to have a gas buoy where the black stake is, just below Pipe Island, and another on the turn off Johnson's Point, where the black stake now is, and one either on the new shoal outside of Iroquois Point, or on the outer or N. W. end of the middle ground inside of St. Iroquois.

On Lake Superior we ought to soon have the much talked of light and whistle on Vermillion Point, and don't fail to advise that a different kind of whistle from that on White-Fish be placed there. By all means let us have a whistle and light on Rock of Ages. I think that aid a good one to close my hopes on at present.

Yours truly,

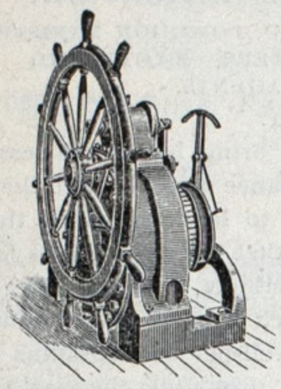
A MARINE RECORD SUBSCRIBER.

RESTITUTION—WRECKERS SURPRISED.

Nearly all of the property that was stripped from the steamer Tampa, while she lay on the rocks near Beaver Bay, Lake Superior, has been recovered by the insurance companies. The value of the property recovered would amount approximately to $5,000, if the property was new.

No arrests were made as none were necessary to recover the property. The fishermen along the shore near Beaver Bay had taken the steamer's equipment. It is said they were given to understand that the Tampa was to be abandoned and they considered themselves entitled to as much of the property as they could carry away. They did not stop at furniture and bedding, cooking utensils and general equipment, ropes and hawsers, but they stripped the cabins of their hardwood finish, and general looting was the order of the day all along the beach. The captain appeared to have forgotten that he was the the general agent for all concerned and should have armed a posse to protect the property of his owners and underwriters if necessary.

Queen City Patent Hydraulic Steerer.



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Generates no heat in pilot house.

Has large hand wheel.

Can be changed from power to hand steering instantly.

A favorite with pilots.

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Queen City Engineering Co.

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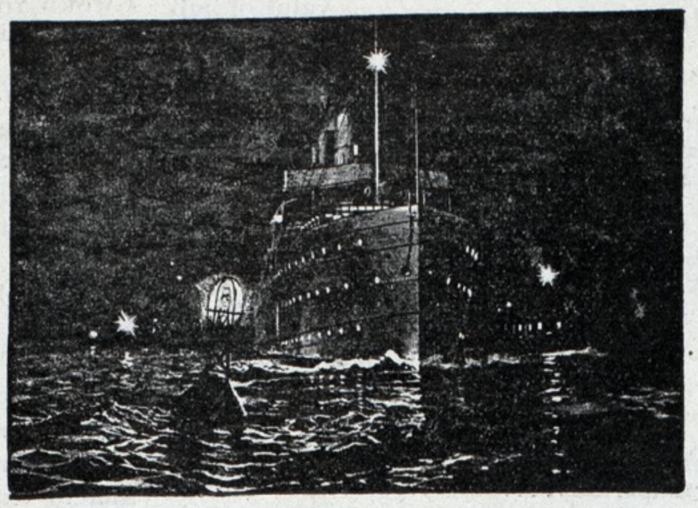
Pintsch Gas Lighted Buoys.

Adopted by the English, German, French, Russian, Italian, and United States Light-House Departments for channel and harbor lighting. Over 800 gas buoys and gas beacons in service.



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from 80 to 365 days and nights without attention, and can be seen a distance of six miles.

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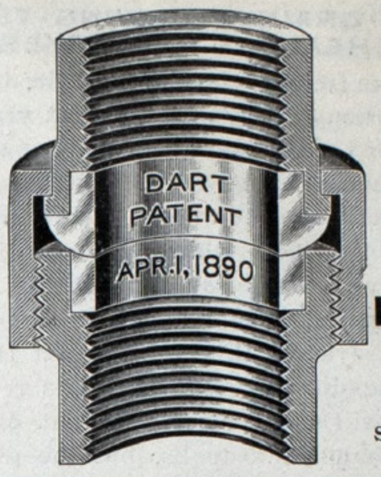

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WANTING COAL

will always find a supply at Geo. N. Carleton's large, new coal dock at East Tawas. The best quality Pennsylvania and Ohio coal supplied night or day. Depth of water at dock, 15 feet.

Almy's Patent Sectional WATER TUBE BOILERS.

NOW USED IN

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61 Steam Yachts from 50 to 180 ft. long.

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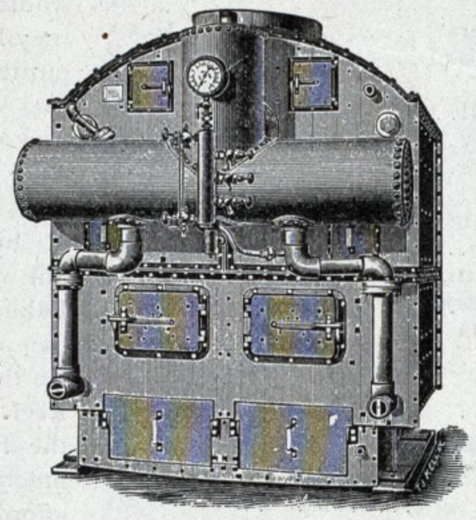

W. A. McGILLIS & CO.

DREDGING.

57 WADE BUILDING. CLEVELAND, OHIO.

TRADE NOTES.

THE Ann Arbor Railroad will, it is said, build a depot and roundhouse at Menominee, Mich., one of the termini of its car ferry lines.

THE Pedrick & Ayer Co. have just shipped two pneumatic riveters to the Harlan & Hollingsworth Co., Wilmington, and another to the Brooks Locomotive Works, Dunkirk, N. Y.

CONTRACTS for a large number of barges have been awarded to the Palmer Ship Building Co., of Noank, Conn. This will necessitate a largely increased force over the greater part of next year.

THE Hilles & Jones Co., of Wilmington, Del., have received an order from the Ohio Steel Co. for ten rail straighteners and another from the Yarrow Co., Great Britain, for ship building tools.

THE Brown Hoisting and Conveying Machine Co., Cleveland, O., has established an office in London, at 39 Victoria street, Westminster, in charge of Edward L. Leeds. An office has also been established at Dusseldorf, Germany, at 13 arlsstrasse, with Alex. Sahlin as manager.

THE Pneumatic Crane Co. has been organized in Pittsburg, to manufacture pneumatic machinery of all descriptions. The incorporators are Charles S. Guthrie, Richard Hoffmann, Jr., David H. McCosh, S. G. Cooper and William S. Halsey, all of Pittsburg The company will first conduct experimental work in connection with certain inventions of Mr. Halsey.

THE Wm. Powell Co., Cincinnati, O., manufacturers of all classes of brass work, patentees of the regrinding Star valve, lubricators, etc., have just issued a very elaborate calendar for the present year, made up in weekly pages, and each sheet showing large, bold figures so as to be easily read at a distance. The Wm. Powell Co. will mail a copy of this excellent calendar to any of our subscribers desiring one.

J. S. MUNDY, of Newark, N. J., recently shipped a pile driving engine, derrick and hammer to Mexico; also a car load of hoisting engines to Chicago. He has an order from the Missouri Pacific Railroad Co. for a double cylinder, double drum hoisting engine with a special boiler to be mounted on a pile driving car. He is also erecting a 38,000 pound hoisting engine for the Merritt-Chapman Derrick & Wrecking Company. The engine has a capacity of 100 tons.

AMONG the tasty calendars for this year which has been laid before us is one from the Geo. I. Roberts & Bros., dealers in engineers' supplies, publishers of the Engineers' List, etc., 471 and 473 Fourth avenue, New York. Occupying half of the card space is a handsome colored picture of the U. S. S. Oregon pursuing the late Spanish warship Colon. We are not so informed, but, it is very probable that any of our readers desirous of obtaining a copy of this calendar may secure one by addressing the firm.

AMONG the many novel and practical uses which corrugated steel sheets, such as are commonly used for roofing purposes, are put to, may be mentioned the supplying of a considerable quantity of the product by the Cincinnati Corrugating Co., of Piqua, O., to the Navy Department. After demonstrating its practicability as a fire proof, rigid and durable material, it is to be used in the construction of the United States cruiser Wisconsin, now being built by the Union Iron Works, San Francisco, Cal., for partitioning off compartments.

WE mentioned last week that the product of the Falls Hollow Staybolt Co., Cuyahoga Falls, O., was recommended for marine boilers as well as stationary and locomotive uses. It is now learned that the manufacturers have just received a large order for safety hollow staybolts from one of the largest makers of marine engines and boilers in Philadelphia, and, as this is the first shipment to the Philadelphia firm it is confidently expected that a large and increasing volume of business will follow as the merits of the hollow staybolt manufacture become more specially known.

Geo. B. Carpenter & Co., naval contractors, ship chandlers, sail makers, Chicago, show in their calendar this year cuts of their warehouse and factory, Indiana and Orleans streets, also the store and offices at 202-208 South Water street. The principal engraving, however, is a view of their extensive sewing loft, where are manufactured sails, tents, flags, awnings, waterproof covers, etc. The Geo. B. Carpenter & Co. are manufacturers and jobbers of cordage, twines, cotton duck, mill, railroad and vessel supplies, contractors to the army and navy, as well as general western agents for the Peerless Rubber Mfg. Co.

FOREIGN orders for American steel rails during the past month have been increasing both in magnitude and distribution. Among these the Illinois Steel Co. closed a contract for 15,000 tons for Japan; the Carnegie Steel Co., an order for 30,000 tons for South Africa; the Lackawanna Co., 5,000 tons for Australia; the Maryland Steel Co., two orders for Siberia, one for 35,000 and the other for 80,000 tons, and also two orders for Australia amounting to 46,000 tons. For products other than steel rails the Illinois Steel Co. had contracts for 10,000 tons; the Carnegie Steel Co., for 85,000 tons; and R. D. Wood & Co., 9,000 tons. These orders are limited strictly to steel products and do not include pig iron or steel in other forms.

"CATALOGUE of improved lubricating devices manufactured by Detroit Sheet Metal and Brass Works, 1898," is the title of a 32-page brochure just received. It is stated that the lubricating devices on the market have been found not to fulfill the conditions brought about by the rapid changes and astonishing advancement made in modern machinery, and the demand for a superior article has been the incentive for the Detroit Sheet Metal and Brass Works to place before its patrons at this time illustrations of lubricating devices of its own manufacture under the McCoy patents, they having purchased outright the McCoy Lubricator Co. The firm are also manufacturers of brass marine hardware in all its branches, also metal ventilators and the Clark patent metallic life raft as endorsed by the U. S. Board of Supervising Inspectors of Steamboats.

TO ESTABLISH ANOTHER LAKE PORT.

A syndicate of capitalists will establish large grain elevators and dry docks at Michigan City, Ind., the great grain shipping center of southern Michigan and northern Indiana, and it is reported that a fleet of steel steamers will ply between Michigan City and ports on Lake Michigan. The syndicate will be named the Indiana & Michigan Dock & Transportation Company, and operations will be put under way with the opening of navigation in the spring.

FRENCH SUBMARINE TORPEDO BOATS.

Interesting details have been published regarding the French submarine boat Gustave Zede, which it is claimed has just emerged from some successful tests at Toulon. She is said to have torpedoed the French Ironclad Magenta twice, once when the latter was anchored and the second time when she was moving. The only draw back it is pointed out is that the eddy caused by the boat betrayed her movements at 1,500 yards in broad daylight. The principal of the invention is that the boat is no longer blind, two lieutenants having invented an eye which facilitates submarine progress. Another submarine boat, the Gymnote, is now armed with torpedos, and a third to be named the Morse will be ready in March.

RACE FOR THE AMERICA'S CUP.

The conditions agreed upon for the international yacht race for the America cup are as follows;

The match to be decided by the best three out of five races. Starting from Sandy Hook lightship.

First race to windward or leeward and return.

Second race, equilateral triangle.

Third race, similar to first race.

Fourth race, similiar to second race.

The course shall be as nearly as possible 30 nautical miles in length.

The challenger shall be informed at least one week before the first race what vessel is to defend the cup.

The system of measurement, time allowance and racing rules of the New York Yacht Club to govern the races, except as hereinafter modified.

The first race shall be sailed on Tuesday, Oct. 3, 1899, unless the Shamrock should be detained by stress of weather, or other cause in which case three weeks' shall be given her for fitting out after her arrival, but the first race shall not be started later than Oct. 10, 1899, and the races shall be sailed on Tuesdays and Saturdays until completed.

The competing yachts shall be measured with all of the weights, dead and alive, on board which they intended to carry during a race, but shall not have on board more persons, all told, during any race than three for every five feet of racing length or fraction thereof. Waste or water tanks, if carried, must be filled with water at the time of measurement.

The restriction of the New York Yacht Club as to floors, bulkheads, doors, water tanks to be waived.

If either yacht by alteration of trim or immersion by dead weight increases her load water line length or in any way increases her spar measurements, as officially taken, she must obtain a remeasurement by special appointment before the next race.

If either yacht decreases her measurements for sailing length in any way in order to profit thereby in time allowance, in any race. she must obtain a remeasurement by special appointment before such race.

Distinct marks shall be placed at the load water line at the bow and as far aft as possible on each vessel.

The following statement was made on behalf of the New York Yacht Club:

"The committee of the New York Yacht Club in announcing the conclusion of the negotiations wish to particularly draw public attention to the act of Congress passed in 1896 under which the United States government has power to formulate and enforce regulations for the purpose of ensuring a clear course and the safety both of the spectators and the contestants, and the committee confidently appeals to those who may attend the race to assist the authorities by strictly carrying out such regulations. The growing popularity of the race and the consequent increase in the numb.r of the spectators renders it absolutely essential in their interests and in the interest of both contestants that all regulations the authorities may publish shall be strictly adhered to."

THE HEAVENS IN JANUARY.

Astronomical data for January, 1899, furnished to the MARINE RECORD by the Washburn Observatory:

The dearth of planets in the evening sky, which has prevailed for several months, still continues, but Mars is coming into a more favorable position and in the midnight hours may be seen high up in the east, and is easily distinguished by his ruddy color. Jupiter, Saturn, Mercury and Venus are all to be seen in the morning hours and with exception of the moon, Venus is by far the most conspicuous object in the heavens, attaining its greatest brilliancy on January 5. Mercury is best placed for observation during the few days preceding and following January 11. On this date also occurs a partial eclipse of the sun, visible throughout the North Pacific Ocean from Hawaii to Behring Straits.

The times of sunrise and sunset for the month at Milwaukee are as follows:

	SUNRISE.	SUNSET.
January 1	7:24	4:27
" 11	7:23	4:37
" 21	7:17	4:50
" 31	7:08	5:30

The times of the moon's phases are:

Third Quarter	January	4th,	9:22 p. m.
New "	"	11th,	4:50 p. m.
First "	"	18th,	10:36 a. m.
Full "	"	26th,	1:34 p. m.

The principal fixed stars visible in the evening hours during the month are: Vega, low down in the northwest; the stars of the constellation, Cygnus, and the great square in Pegasus; higher up in the western sky, Aldebaran and Capella; near the meridian and to the east, Sirius, Procyon, Castor and Pollux, and the brilliant constellation Orion.

THE RIVER AND HARBOR BILL.

Indications are that the river and harbor bill to be passed at this session of Congress will be of generous proportions. It is estimated that the appropriations carried by the bill will not be less than $50,000,000, and they may be as much as $75,000,000. The city of New York wants $10,000,000 for dredging and deepening the upper harbor. A large delegation of influential business men from that city appeared before the committee last week and submitted maps and charts showing the necessity for the appropriation. Boston wants a large sum for the improvement of its harbor, and Philadelphia is asking for a liberal appropriation while lake ports are also well in evidence.

NEVER GIVE UP THE SHIP.

There is a good deal of a sailor-like spirit displayed at all times among newspaper men, publishers of periodicals and even throughout the ranks of compositors. Whatever may befall, they are ready to meet it, if pleasant, so much the better, if annoying, destructive or disastrous, they have always an alternative fixed to weather the event. The spirit of never give up the case, or desk, or publication, is markedly evinced and the feeling is all there that if we can't do as well as we would wish or like to, we'll do the best we can under the circumstances and turn to good account all available paraphernalia, material, equipment or makeshifts.

The foregoing occurred to us in noting how the officers of Locomotive Engineering rose to the occasion and eventually worked a disaster around to a material and technical success.

Through the relentless fury of that demi-god, Fire, the offices, cuts, copy, records of publication, and, in a word, the implements of the profession, were swept away December 4. Mr. Angus Sinclair, with his two officers, Messrs. Colvin and Patterson, sailed in, ship-shape and Bristol fashion, with the result that the Locomotive Engineering is again fully equipped, heading along with a fair wind, and the last vestige of an almost irreparable casualty is out of sight, dropped away below the horizon, so to speak, and the gallant craft with a complete new dress, well apparalled and liberally fitted out is again plowing the paths of successful journalism.

We render our mite of tribute to the editor and his staff on Locomotive Engineering in acknowledging their praiseworthy efforts and enterprise in rebuilding the derelict construction and getting again under all plain sail, hailing from 95 Liberty street, New York.

THE Drake & Stratton Company, of Pittsburg, has just received a contract from the United States Government through the War Department for the construction of a large dock at Havana, Cuba, and a short railroad to Morro Castle, costing altogether about $500,000. The company has already dispatched 500 laborers and two cargoes of machinery to the island, and the work will be rushed to completion by next May. The work is being done to enable the War Department to re-equip the famous castle overlooking Havana harbor.

PROPOSALS.

U. S. ENGINEER OFFICE, Duluth, Minn., Jan. 3, 1899. Sealed proposals for dredging in Portage Lake Ship Canals, Keweenaw Point, Mich., will be received here until noon, Feb. 3, 1899, and then publicly opened. Information furnished on application. CLINTON B. SEARS, Major, Engrs. 1–4

TOBIN BRONZE

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Insurance

BROWN & CO., - - - 202 Main Street, Buffalo, N. Y.
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J. G KEITH & CO., - 138 Rialto Building, Chicago, Ill.
LA SALLE & CO., Board of Trade Building, Duluth, Minn.

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INCORPORATED 1794.

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CAPITAL, Paid up in Cash, - - - - - $3.000.000.00
ASSETS, - - - - - - - - 10,023,220.93

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T. HOUARD WRIGHT, Marine Secretary.

Lake Marine Department, GEORGE L. McCURDY. MANAGER, CHICAGO, ILL.

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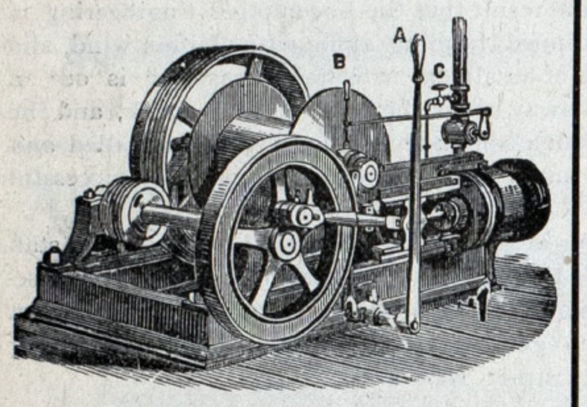

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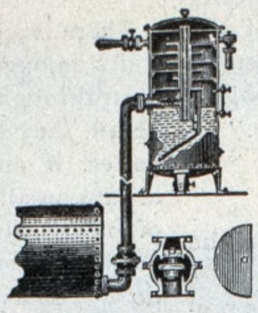
With either Fractional, Spur or Worm Gear of Various Patterns to Suit all Purposes.



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AND PURIFIER.

Made in all Sizes and to Suit all Conditions.

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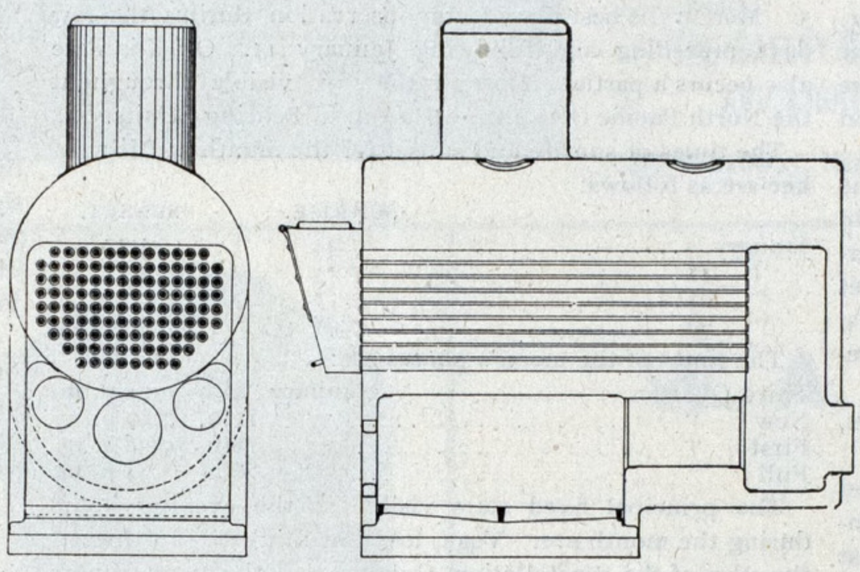

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They are economical and occupy but little space.
They give perfect satisfaction.
They are easily kept clean, and the crown sheet being cylindrical in form requires no bracing.

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Our knowledge of river navigation is earned through long experience and exceptional opportunity. We design and build the *entire and complete* outfits of driving machinery for powerful light draft vessels, having the best of modern shop facilities to aid us in doing *all* the work. Write to us before you act.

MARINE IRON WORKS
Station A. CHICAGO.

Maurice & Williams,
COMPASS ADJUSTERS,
AND NAUTICAL EXPERTS.

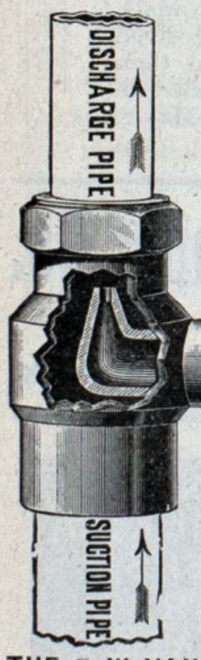
ROOM 13,
240 SOUTH WATER STREET.
CHICAGO.
'PHONE, 273 MAIN.

Compasses adjusted for deviation and deviation tables supplied. Great facilities for doing the work by day or night, in an hour or two.

Instruction given in Navigation and Nautical Astronomy. Correct magnetic courses furnished for all parts of the lakes. Repairing of nautical instruments attended to.

Use the Vanduzen Steam Jet... **PUMP**

THE BEST STEAM JET PUMP IN THE WORLD.



It pumps the most water using the least steam.

Its cost is a little more than the common syphon, but will use only one-third the quantity of steam; and it takes coal (? of $) to make steam.

The **only** reliable Jet Pump for fires on steam vessels.

A No. 7 Pump, costing $25.00, will force water through 50 feet of hose and throw a ¾-inch solid stream of water 75 feet from end of nozzle without fail as long as there is water at end of suction pipe. It will not *freeze*. Has no *valves*.

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DETROIT RIVER BRANCH.—Amherstburg: Four Pockets: Three Steam Derricks
SANDWICH—Fourteen Pockets and Two Steam Derricks.

"SOO" RIVER BRANCH.—Two Docks, (Formerly known as the Anthony and Watson Docks,) Equipped with Pockets and Steam Derricks.

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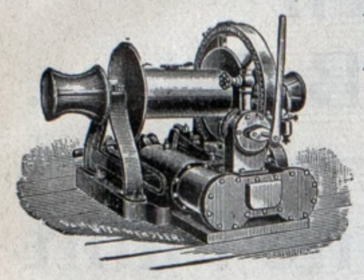

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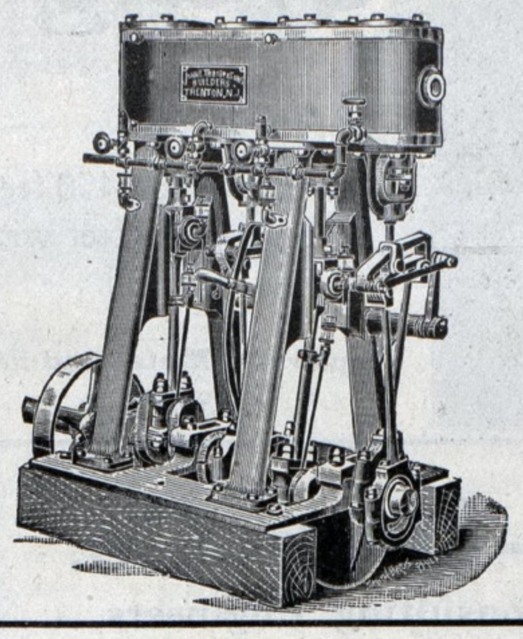

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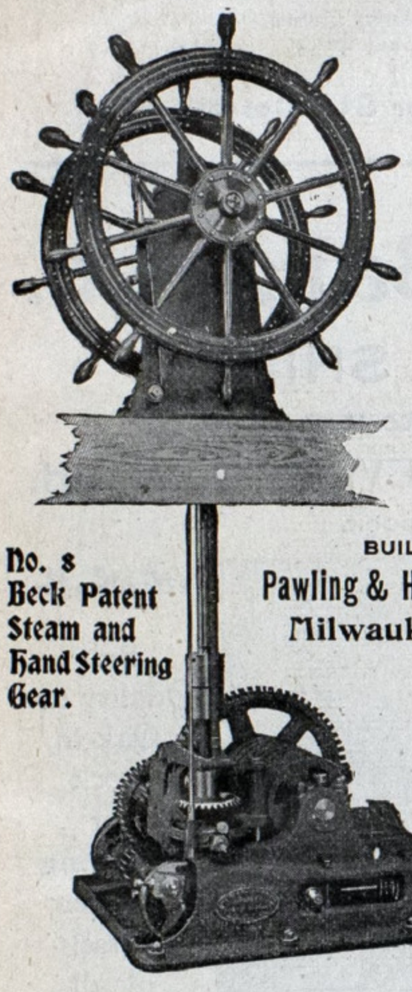

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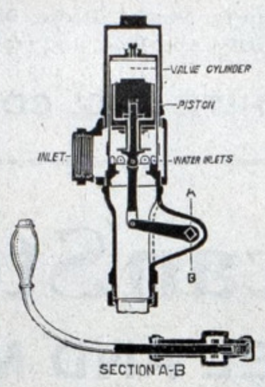

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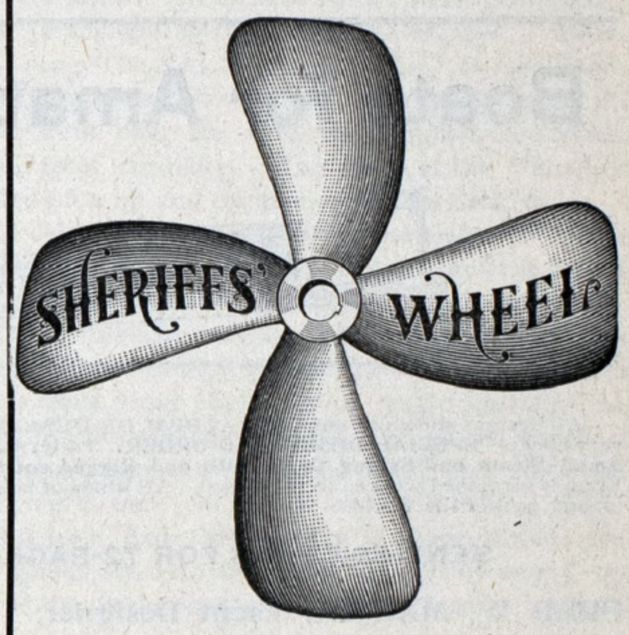

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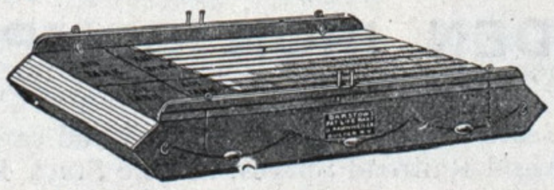

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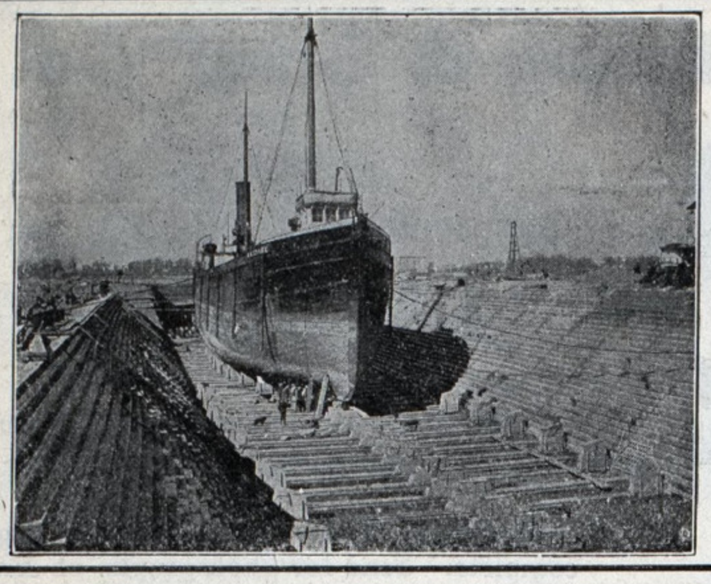

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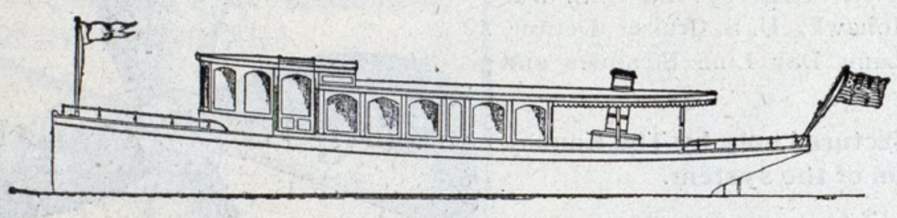

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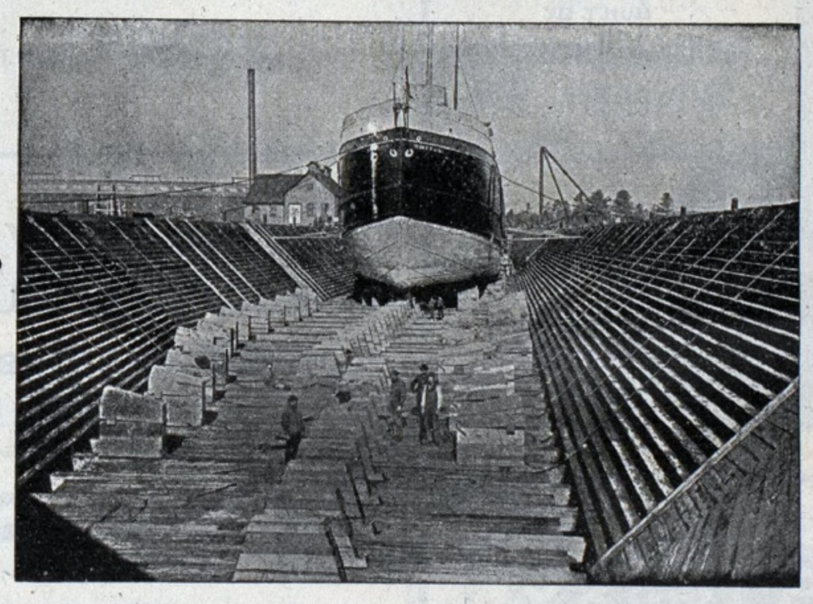

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